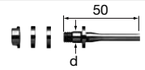
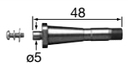
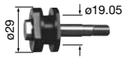
PARTS

■Chuck Nut

Product	Description	Fit to	Model	Code No.
	Chuck Nut for Collet Chuck (CHA)	EM20-S6000・EM25-S6000 EMS-3060A・NR-3080S	CHN-A	2102
	Chuck Nut for Collet Chuck (CHK)	EM30-S6000・EMA-3020K・EMS-3060K EMR-3008K・NR-151E・NR-2551 NR-3060S・NR-403E・NR-453E RAS-151E・RAX-271E・RAX-71E	K-265	2129
	Chuck Nut for NRAF-5080	NRAF-5080	K-265A	2158

■Special Axis・Grindstone Axis

Product	Inside Diameter : ød		Fit to	Model	Code No.
	ø5.0	Special Metal Saw Axis Dimensions of Metal Saw ød (I.D) x ø30 (O.D.) mm Run-out Accuracy : Within 0.02 mm	RA-151E	KCH-02 (5.0)	2146
	ø6.0			KCH-02 (6.0)	1077
	ø8.0			KCH-02 (8.0)	2147
	ø5.0	Special Metal Saw Axis Dimensions of Metal Saw ød (I.D) x ø30 (O.D.) mm Run-out Accuracy : Within 0.02 mm	EMA-3020K・EMS-3060K・EMR-3008K NR-2551・NR-3060S・RAS-151E RAX-71E・RAX-271E	KCH-03 (5.0)	2148
	ø6.0			KCH-03 (6.0)	2130
	ø8.0			KCH-03 (8.0)	2149
	Grindstone Axis Run-out Accuracy : Within 0.02 mm For Grindstone with ø5.0 mm I.D.		EMA-3020K・EMS-3060K・EMR-3008K NR-2551・NR-3060S・NRR-2651 RAS-151E・RAX-71E・RAX-271E	AGM-03	2131
	Grindstone Flange Applicable Grindstone Dimensions ø19.05 (I.D.) x ø40 (O.D.) x 7 (W) mm		EMS-3060K・NR-3060S NR-403E・NR-453E	EGF-19	2138

✻ : For right hand (cw) rotation only.

■Grease

Product	Description	Fit to	Model	Code No.
	Grease for Reducer (2.5mL)	ARG-011E・ARG-021E・EMA-3020K RAX-271E・RAX-71E	—	1547
	Grease for Reducer (10mL)		—	1550
	Grease for Reducer (100mL)		—	1549

✻Please mention "Code Number" upon your order.

● Specifications may be changed without notice.

NAKANISHI INC. *www.nakanishi-inc.com*

Headquarters | 700 Shimohinata, Kanuma-shi, Tochigi-ken 322-8666, Japan
TEL : +81(0)289-64-3380 FAX : +81(0)289-62-5636

TokyoOffice | 9F TIXTOWER UENO, 4-8-1, Higashiueno, Taito-ku, Tokyo 110-0015, Japan
TEL : +81(0)3-5828-7740 FAX : +81(0)3-5828-0064

PR-K243E Ver.2 '10.10.03.A

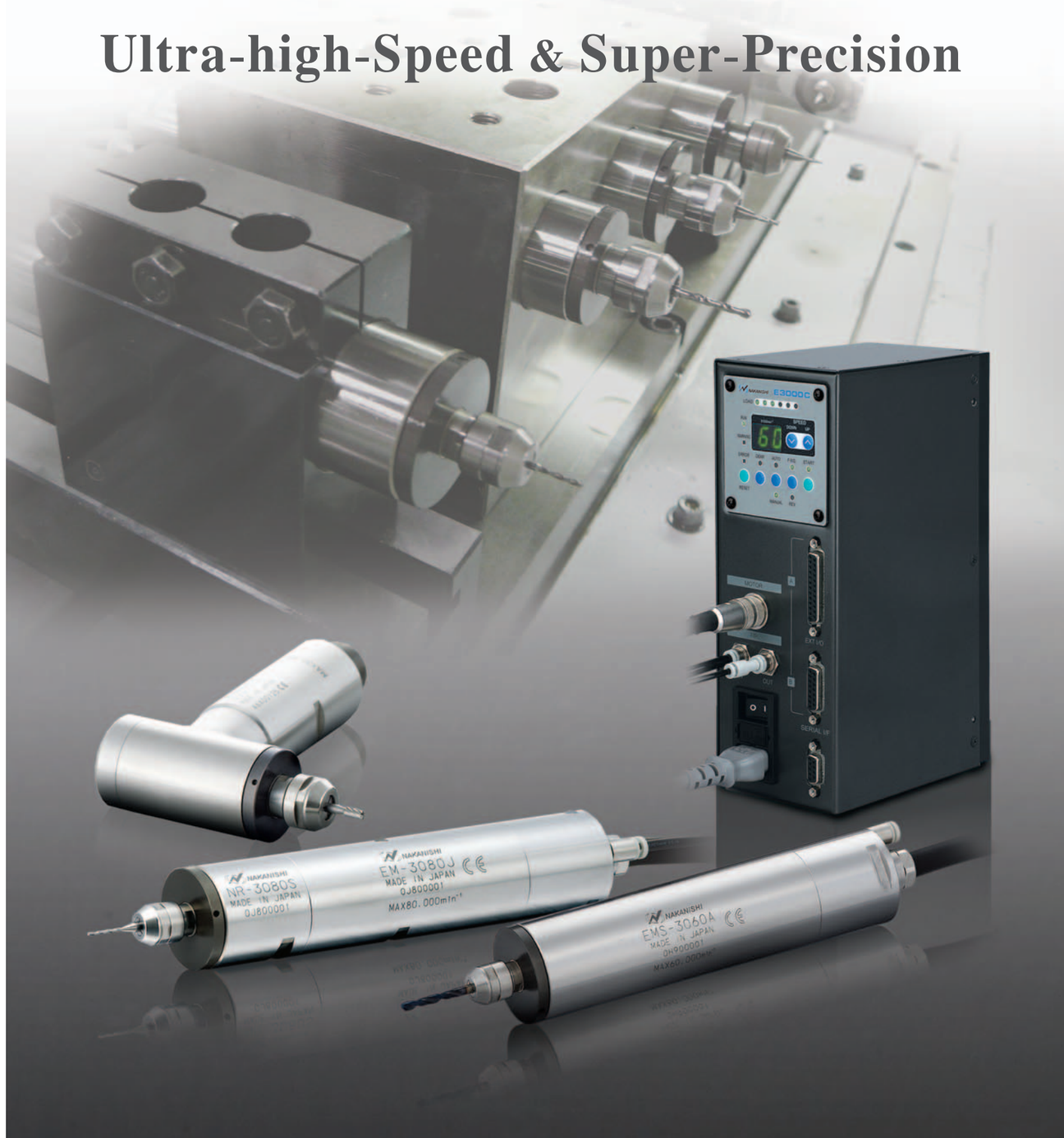
NAKANISHI

BRUSHLESS MOTOR & SPINDLE

FOR CNC LATHES, SPECIAL PURPOSE MACHINES

E-speed E3000 Series

Ultra-high-Speed & Super-Precision



Ultra Precision Brushless Motor

- One piece type, Separate Type is available.
- Excellent durability and high rigidity are obtained using a high-speed brushless motor.
- Designed for high speed milling and drilling, etc on CNC lathes and special purpose machines.

Torque Characteristics Graph

- **Output :** Output means that the working capacity by the brushless motor. Output depends on Motor Speed and Torque.
- **Torque :** Maximum Torque means the torque by the combination of the control unit & the brushless motor. Stop the motor when loading the motor over the maximum torque.
- **Continuous Duty Area :** Rating Torque means the torque by the brushless motor continuously. The torque area from the rating power to the maximum power means that the torque by the brushless motor intermittently.

One Piece Type Spindle

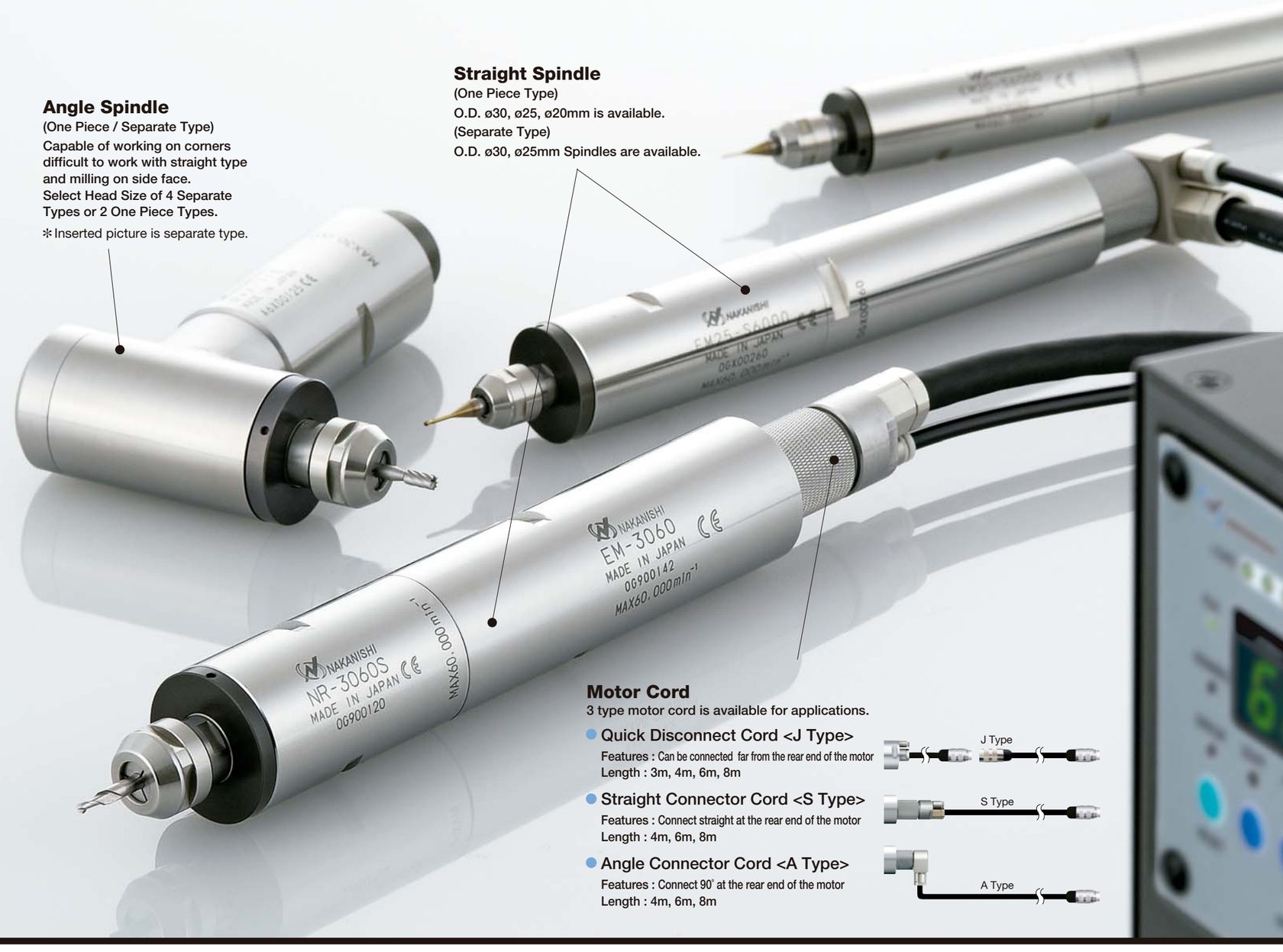
- Shorten total spindle length suitable for the compact sized NC or CNC Lathe, and special purpose machines.
- Hardened and precision ground for high rigidity & excellent durability.
- External housing is one-piece with the spindle & the motor for machine attachments.

Separate Type Spindle

- Free to connect the spindle to the motor for applications
- Easy to exchange for repairs

Angle Spindle
(One Piece / Separate Type)
Capable of working on corners difficult to work with straight type and milling on side face.
Select Head Size of 4 Separate Types or 2 One Piece Types.
✻Inserted picture is separate type.

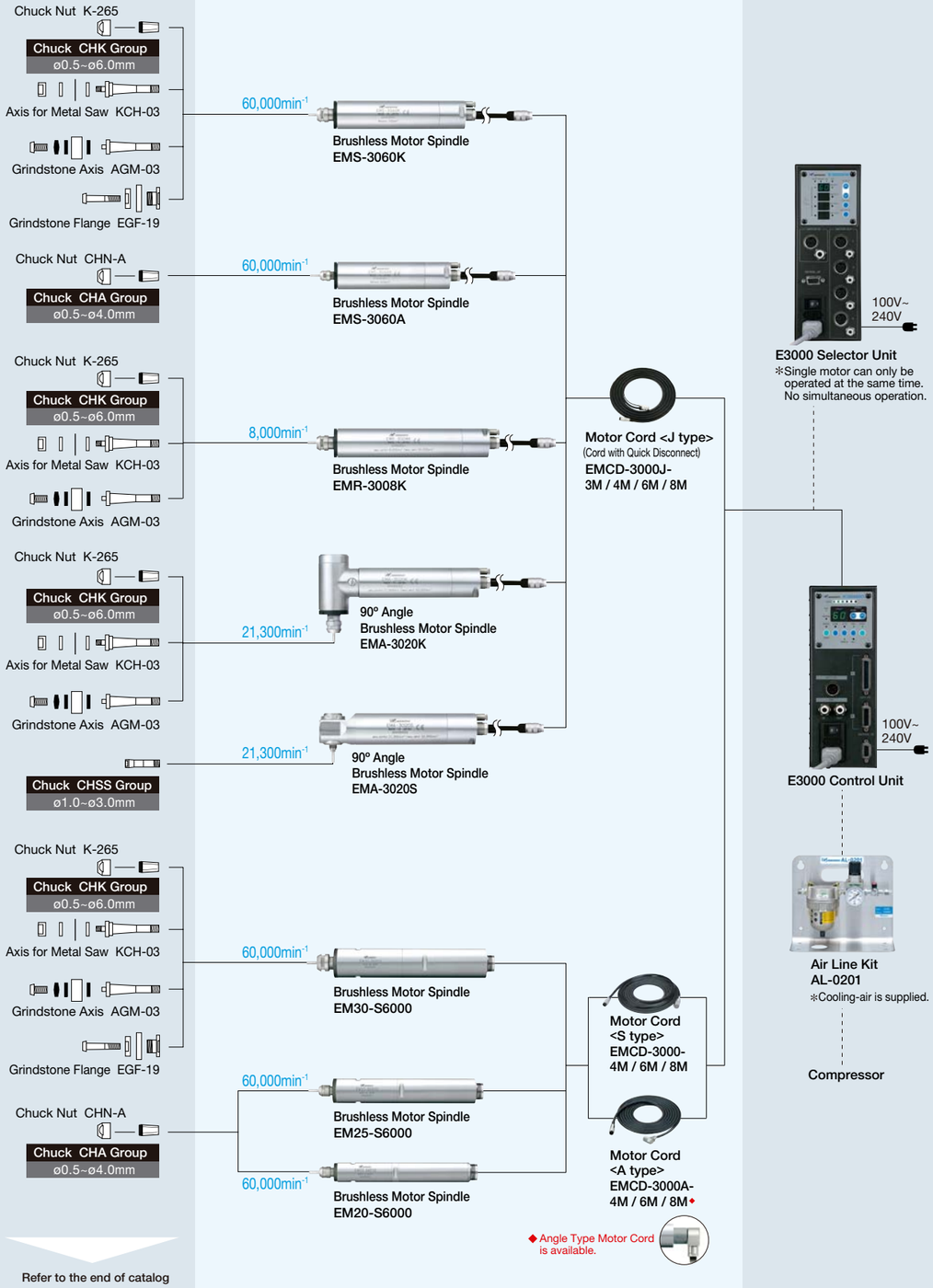
Straight Spindle
(One Piece Type)
O.D. ø30, ø25, ø20mm is available.
(Separate Type)
O.D. ø30, ø25mm Spindles are available.



Motor Cord
3 type motor cord is available for applications.

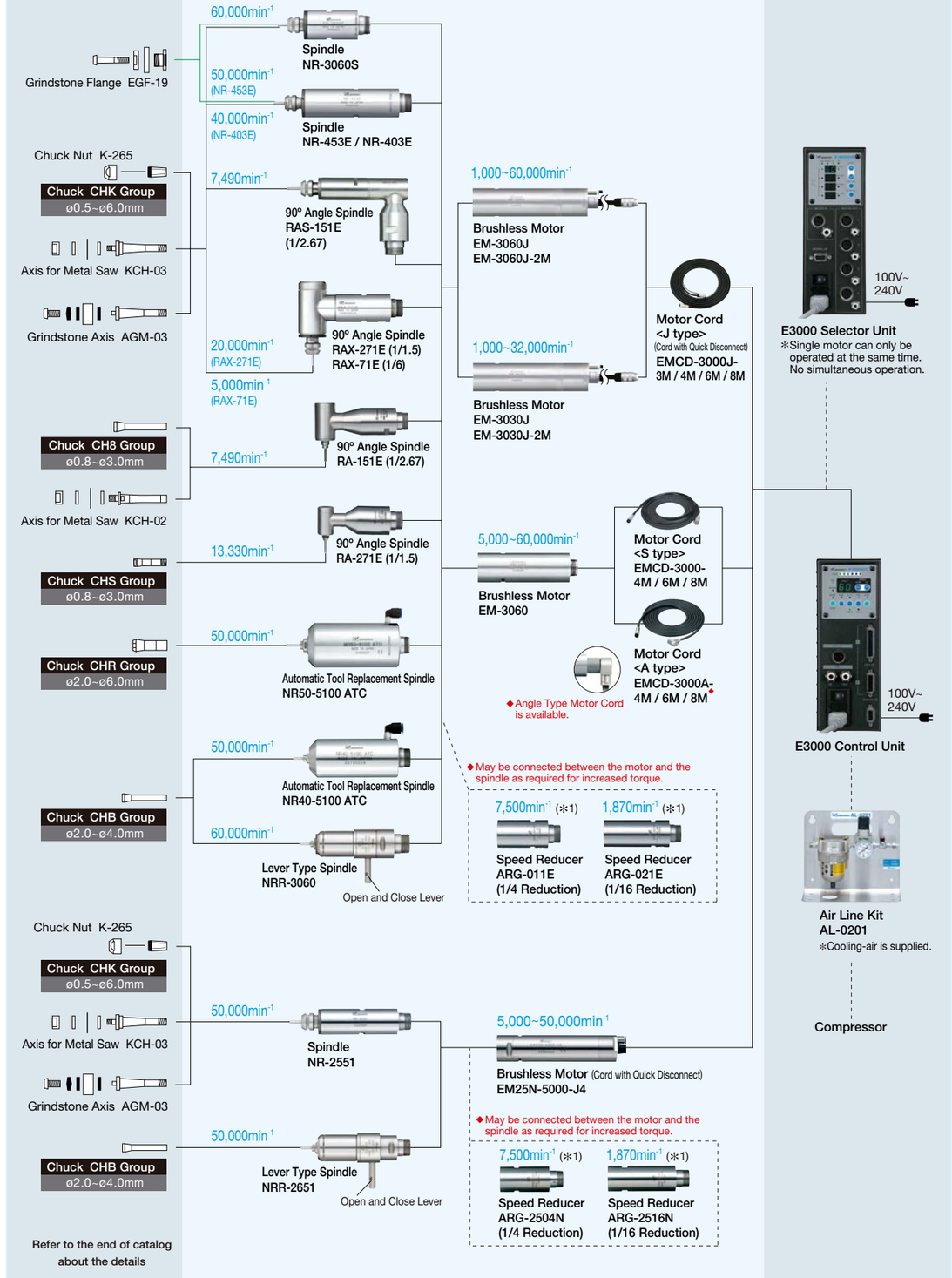
- **Quick Disconnect Cord <J Type>**
  Features : Can be connected far from the rear end of the motor
  Length : 3m, 4m, 6m, 8m
- **Straight Connector Cord <S Type>**
  Features : Connect straight at the rear end of the motor
  Length : 4m, 6m, 8m
- **Angle Connector Cord <A Type>**
  Features : Connect 90° at the rear end of the motor
  Length : 4m, 6m, 8m

ELECTRIC SYSTEM — One Piece Type ø30, ø25, ø20mm



Refer to the end of catalog
about the details

ELECTRIC SYSTEM — Separate Type ø30, ø25mm



Refer to the end of catalog
about the details

✻Do not exceed the maximum motor speed recommendation for the spindles.
Excess speed will dramatically reduce bearing life.

✻1 : Maximum rotating speed at the cutting tool.

✻Please refer to the concerned product introduction page about the details.

E3000 Control Unit

Max. 60,000 min^{-1} Specification

Max. Power 350W (ø30mm Motor)

External Input / Output Control Signal Operation

●External Input
- Motor Rotating / Stopped
- Error Released
- Rotating Direction
- Motor Speed Setting and etc.

●External Monitor
- Motor Current
- Error
- Warning
- Rotating pulse and etc.

●Parameter Setting
- Maximum motor speed setting,
- Fix the motor speed etc.

Refer to Technical Data (General Catalogue) in detail

LED Load Meter

LOAD

- ●: Continuous load area
- ●: Intermittent load area
- ●: Overload

Dimensions : W88 x D138 x H238 mm

Operation Panel Extension Cord 4m is available

Operation Panel Extension Cord

OPTION → Refer to P.33

Capable of Horizontal Setting

Cooled-air is supplied

Air Flow Volume : 30L/min (0.25-0.3MPa)

Air Line Kit
AL-0201

OPTION → Refer to P.33

AC100-240V for international operation

Parameter Setting

Capable of setting the maximum motor speed for the allowable motor speed by the Parameter Setting

ELECTRIC SYSTEM		Motor Speed	Power Source	Max. Power	Power Consumption	Weight
E3000 Control Unit		5,000~60,000min^{-1}	AC100~240V	350W	AC 1.8A	2.8kg

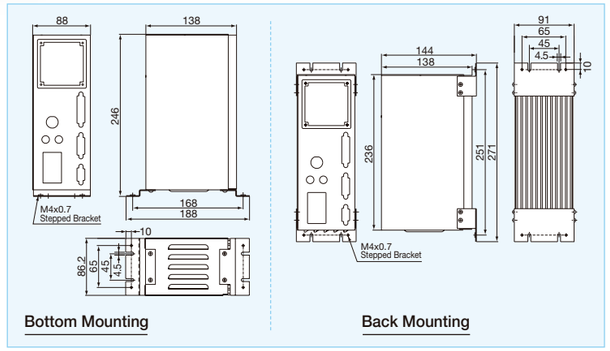
Plug Type	For 100V (A type)	Code No.	8421	Product	E3000 Control Unit
Plug Type	For 120V (B type)	Code No.	9775		
Plug Type	For 200V (C type)	Code No.	8422		
Plug Type	For 230V (D type)	Code No.	9776		

< Standard Equipment · Accessories >

- Power Cord : 2m • Air Hose with filter • Reducer
- Air Plug (Provided) • Connector Cap (Provided)
- Bracket • Power Cord Grip • Screw • Rubber Pad
- Fuse (T6.3AL) 250V : 2pcs.

✻The Control Unit {CAT.No. : 8423 (100V), 9778 (115V), 8424 (200V), 9779 (230V)} are an Optional Safety Version with an "Emergency Stop Input" and "Safety Relay".
✻AC100-240V for international operation. Please check the power source plug type (p.6) and order accordingly.

▼Mounting Bracket



▼Power Source Plug

Plug Type	Main Usable Area	Product
For 100V (A type)	For Japan	
For 120V (B type)	For U.S.A. and Canada	
For 200V (C type)	Without Plug	
For 230V (D type)	For Europe	

✻Please mention "Code Number" upon your order.

▼ BRUSHLESS MOTOR SPINDLE (One Piece Type)

Straight Spindle

COOLANT CE

Outside Diameter ø30mm

Max. 60,000min-1

Max. Power 350W

Hardened and precision ground for high rigidity & excellent durability

External housing is one-piece with the spindle & the motor for machine attachments

Brushless Motor Spindle
EMS-3060K

Motor Cord <J Type>
EMCD-3000J-4M
OPTION → Refer to P.22
*Cord length 3M, 6M, 8M is available.

Shorten Total Spindle Length
Suitable for the compact sized NC or CNC Lathe.

Spindle Runout : Within 1 µm

Collet Chuck
CHK-3.0
OPTION → Refer to P.34
*Other collet sizes are available.

E3000 Control Unit
OPTION → Refer to P.5

*Do not exceed the allowable motor speed for the spindle.

ELECTRIC SYSTEM

Brushless Motor Spindle
EMS-3060K

O.D.	Motor Speed	Spindle Runout	Collet Chuck	Max. Power	Weight
ø30mm	60,000min-1	Within 1 µm	ø0.5~ø6.0mm (CHK Group)	350W	565g

Code No. 1756 Model EMS-3060K

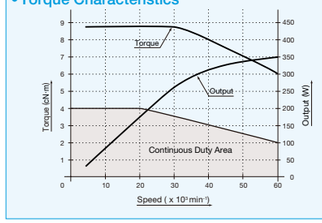
< Standard Equipment · Accessories >

• Collet Chuck ø3.0mm (CHK-3.0) • Chuck Nut (K-265) • Spanner (12 x 14) : 2pcs.

< Optional >

Collet Chuck (CHK Group)	: ø0.5~ø6.0mm See Page 34 for details
Motor Cord	: Length 3m (1778), 4m (1768), 6m (1767), 8m (1766)
Metal Saw Axis (KCH-03)	: For ø6.0 (I.D.) x within ø30mm (O.D.)
Grindstone Axis (AGM-03)	: For grinding wheel with I.D. of ø5.0mm
Grindstone Flange (EGF-19)	: ø19.05 (I.D.) x ø40 (O.D.) x 7 (W) mm

•Torque Characteristics



When using an angle type spindle or a speed reducer, do not exceed
" the maximum motor speed " or " the maximum rotating speed at the reducer "
for the spindle and the reducer.

ELECTRIC SYSTEM

Brushless Motor Spindle
EMS-3060A

O.D.	Motor Speed	Spindle Runout	Collet Chuck	Max. Power	Weight
ø30mm	60,000min-1	Within 1 µm	ø0.5~ø4.0mm (CHA Group)	350W	495g

For light duty grinding

Code No. 1755 Model EMS-3060A

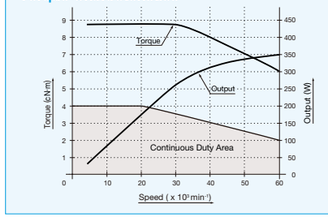
< Standard Equipment · Accessories >

• Collet Chuck ø3.0mm (CHA-3.0) • Chuck Nut (CHN-A) • Spanner (8 x 5), (9 x 11) : 1pc. each

< Optional >

Collet Chuck (CHA Group)	: ø0.5~ø4.0mm See Page 34 for details
Motor Cord	: Length 3m (1778), 4m (1768), 6m (1767), 8m (1766)

•Torque Characteristics

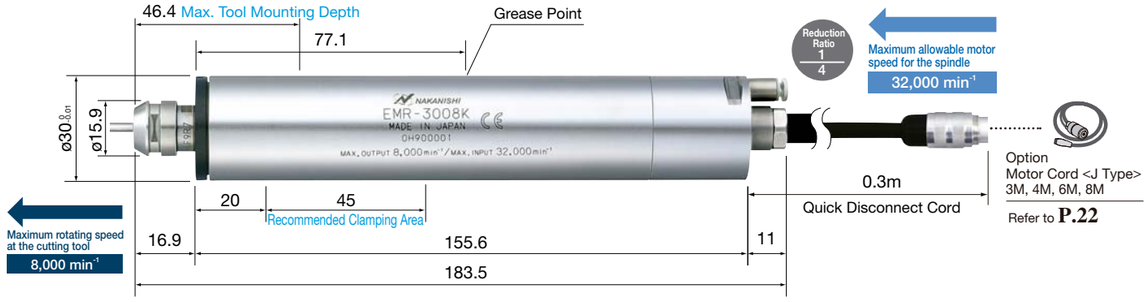


ELECTRIC SYSTEM

Brushless Motor Spindle
EMR-3008K

O.D.	Max. Rotating Speed at The Cutting Tool	Reduction Ratio	Max. Allowable Motor Speed for The Spindle	Spindle Runout	Max. Power	Weight
ø30mm	8,000min-1*	1/4	32,000min-1 (Allowable Rotating Speed)	Within 1 µm	350W	650g

Code No. 1757 Model EMR-3008K



< Standard Equipment · Accessories >

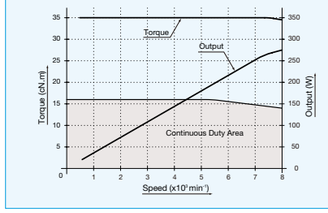
• Collet Chuck ø3.0mm (CHK-3.0) • Chuck Nut (K-265) • Spanner (12 x 14) : 2pcs. • Grease for Reducer (10mL)

< Optional >

Collet Chuck (CHK Group)	: ø0.5~ø6.0mm See Page 34 for details
Motor Cord	: Length 3m (1778), 4m (1768), 6m (1767), 8m (1766)
Metal Saw Axis (KCH-03)	: For ø6.0 (I.D.) x within ø30mm (O.D.)
Grindstone Axis (AGM-03)	: For grinding wheel with I.D. of ø5.0mm

To extend the life expectancy of the Speed Reducer, inject grease every 70 to 100 hours. Grease injection prevents friction of the internal gears as well as heat generation. Adding grease also prevents the degradation of the existing grease in the reducer. Please maintain a reducer grease maintenance program.

•Torque Characteristics



*Please mention "Code Number" upon your order.

BRUSHLESS MOTOR SPINDLE (One Piece Type)

Straight Spindle

COOLANT

Outside Diameter **ø30, ø25, ø20mm**

Max. **60,000min^{-1}**

Max. Power **350W (ø30mm)**

Spindle Runout : Within 1 µm

Brushless Motor Spindle EM30-S6000

Motor Cord <S Type> <A Type>
EMCD-3000-4M
OPTION → Refer to P.21
*Cord length 6M, 8M is available.

Collet Chuck : Max. ø6.0mm

Collet Chuck
CHK-3.0
OPTION → Refer to P.34
*Other collet sizes are available.

E3000 Control Unit
OPTION → Refer to P.5

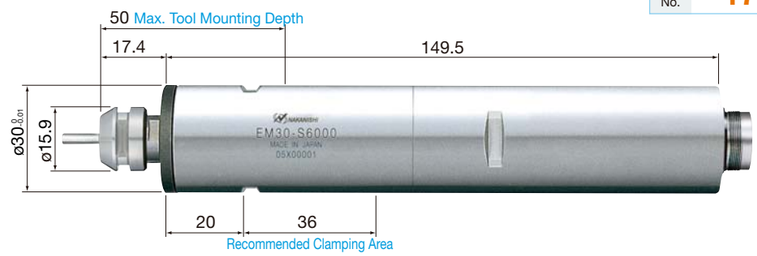
*Do not exceed the allowable motor speed for the spindle.

ELECTRIC SYSTEM

Brushless Motor Spindle
EM30-S6000

O.D.	Motor Speed	Spindle Runout	Collet Chuck	Max. Power	Weight
ø30mm	60,000min^{-1}	Within 1 µm	ø0.5~ø6.0mm (CHK Group)	350W	575g

Code No. **1747** Model **EM30-S6000**



Option
Motor Cord <S Type> <A Type>
4M, 6M, 8M
Refer to P.21

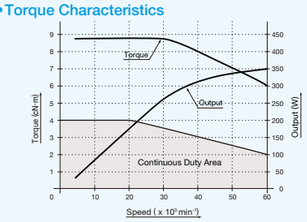
< Standard Equipment · Accessories >

• Collet Chuck ø3.0mm (CHK-3.0) • Chuck Nut (K-265) • Spanner (12 x 14) : 2pcs.

< Optional >

Collet Chuck (CHK Group)	: ø0.5~ø6.0mm See Page 34 for details
Motor Cord	: Length 4m (1748), 6m (1749), 8m (1750)
Metal Saw Axis (KCH-03)	: For ø6.0 (I.D.) x within ø30mm (O.D.)
Grindstone Axis (AGM-03)	: For grinding wheel with I.D. of ø5.0mm
Grindstone Flange (EGF-19)	: ø19.05 (I.D.) x ø40 (O.D.) x 7 (W) mm

•Torque Characteristics

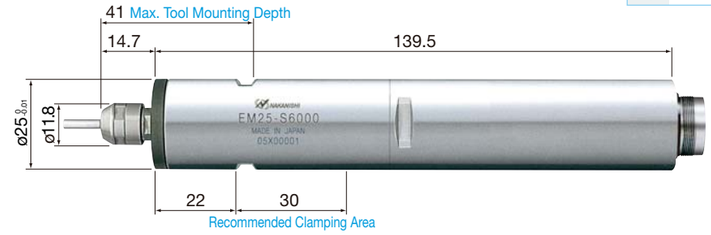


ELECTRIC SYSTEM

Brushless Motor Spindle
EM25-S6000

O.D.	Motor Speed	Spindle Runout	Collet Chuck	Max. Power	Weight
ø25mm	60,000min^{-1}	Within 1 µm	ø0.5~ø4.0mm (CHA Group)	250W	375g

Code No. **1746** Model **EM25-S6000**



Option
Motor Cord <S Type> <A Type>
4M, 6M, 8M
Refer to P.21

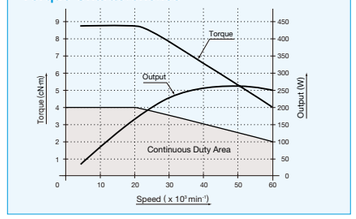
< Standard Equipment · Accessories >

• Collet Chuck ø3.0mm (CHA-3.0) • Chuck Nut (CHN-A) • Spanner (8 x 5), (9 x 11) : 1pc. each

< Optional >

Collet Chuck (CHA Group)	: ø0.5~ø4.0mm See Page 34 for details
Motor Cord	: Length 4m (1748), 6m (1749), 8m (1750)

•Torque Characteristics

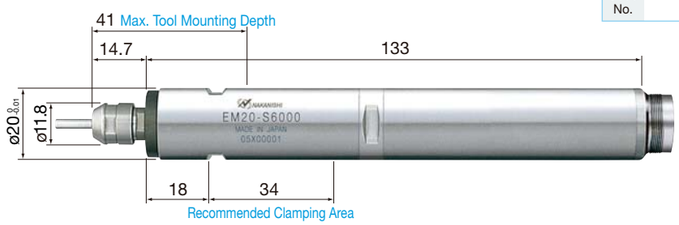


ELECTRIC SYSTEM

Brushless Motor Spindle
EM20-S6000

O.D.	Motor Speed	Spindle Runout	Collet Chuck	Max. Power	Weight
ø20mm	60,000min^{-1}	Within 1 µm	ø0.5~ø4.0mm (CHA Group)	250W	230g

Code No. **1745** Model **EM20-S6000**



Option
Motor Cord <S Type> <A Type>
4M, 6M, 8M
Refer to P.21

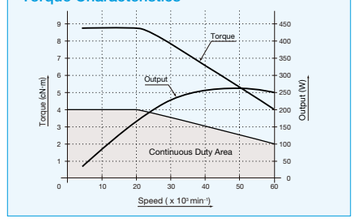
< Standard Equipment · Accessories >

• Collet Chuck ø3.0mm (CHA-3.0) • Chuck Nut (CHN-A) • Spanner (8 x 5), (9 x 11) : 1pc. each

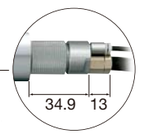
< Optional >

Collet Chuck (CHA Group)	: ø0.5~ø4.0mm See Page 34 for details
Motor Cord	: Length 4m (1748), 6m (1749), 8m (1750)

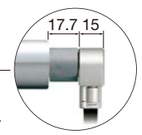
•Torque Characteristics



Motor Cord <S Type>
EMCD-3000-4M
OPTION → Refer to P.21
*Cord length 6M, 8M is available.



Motor Cord <A Type>
EMCD-3000A-4M
OPTION → Refer to P.21
*Cord length 6M, 8M is available.



*Please mention "Code Number" upon your order.

▼ BRUSHLESS MOTOR SPINDLE (One Piece Type)

Angle Spindle

COOLANT

Outside Diameter **ø30mm**

Max. **21,300min⁻¹** (Maximum rotating speed at the cutting tool for EMA-3020K)

Max. Power **280W**

Motor Cord <J Type>
EMCD-3000J-4M
OPTION → Refer to P.22
✻Cord length 3M, 6M, 8M is available.

Angle Spindle Select Sheet

Model	EMA-3020K	EMA-3020S
Angle Head Size O.D.	ø30 x 76.2mm	27 x 36.5mm
Max. Rotating Speed at The Cutting Tool	21,300min⁻¹	
Using Tools	ø0.5~ø6.0mm	ø1.0~ø3.0mm

90˚Angle Brushless Motor Spindle
EMA-3020K

Hardened and precision ground for high rigidity & excellent durability

Shorten Total Spindle Length
Suitable for the compact sized NC or CNC Lathe.

Collet Chuck : Max. ø6.0mm
Collet Chuck
CHK-3.0
OPTION → Refer to P.34
✻Other collet sizes are available.

External housing is one-piece with the spindle & the motor for machine attachments

E3000 Control Unit
OPTION → Refer to P.5

✻Do not exceed the allowable motor speed for the spindle.

⚠ When using an angle type spindle or a speed reducer, do not exceed " the maximum motor speed " or " the maximum rotating speed at the reducer " for the spindle and the reducer.

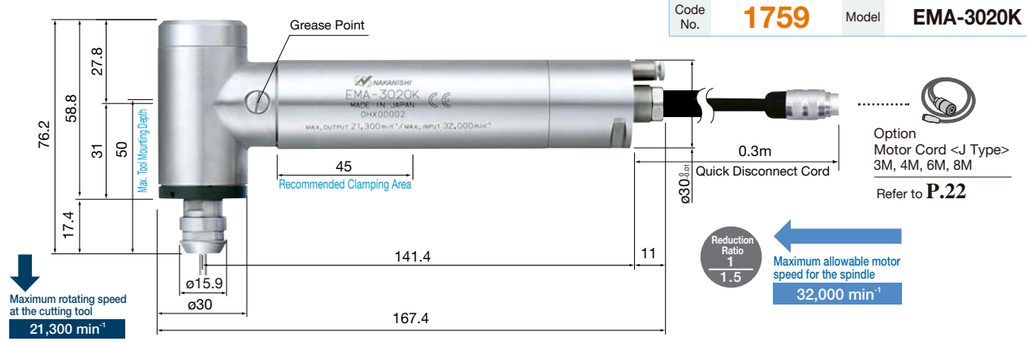
ELECTRIC SYSTEM

90˚Angle Brushless Motor Spindle

EMA-3020K

O.D.	Max. Rotating Speed at The Cutting Tool	Reduction Ratio	Max. Allowable Motor Speed for The Spindle	Spindle Runout	Max. Power	Weight
ø30mm	21,300min⁻¹	1 / 1.5	32,000min⁻¹ (Allowable Rotating Speed)	Within 2 μm	280W	760g

Code No. 1759 Model EMA-3020K



< Standard Equipment · Accessories >

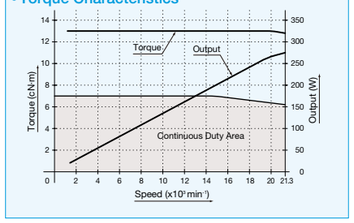
• Collet Chuck ø3.0mm (CHK-3.0) • Chuck Nut (K-265) • Spanner (12 x 14) : 2pcs. • Grease for Reducer (10mL)

< Optional >

Collet Chuck (CHK Group)	: ø0.5~ø6.0mm See Page 34 for details
Motor Cord	: Length 3m (1778), 4m (1768), 6m (1767), 8m (1766)
Metal Saw Axis (KCH-03)	: For ø6.0 (I.D.) x within ø30mm (O.D.)
Grindstone Axis (AGM-03)	: For grinding wheel with I.D. of ø5.0mm

⚠ To extend the life expectancy of the Speed Reducer, inject grease every 70 to 100 hours. Grease injection prevents friction of the internal gears as well as heat generation. Adding grease also prevents the degradation of the existing grease in the reducer. Please maintain a reducer grease maintenance program.

•Torque Characteristics



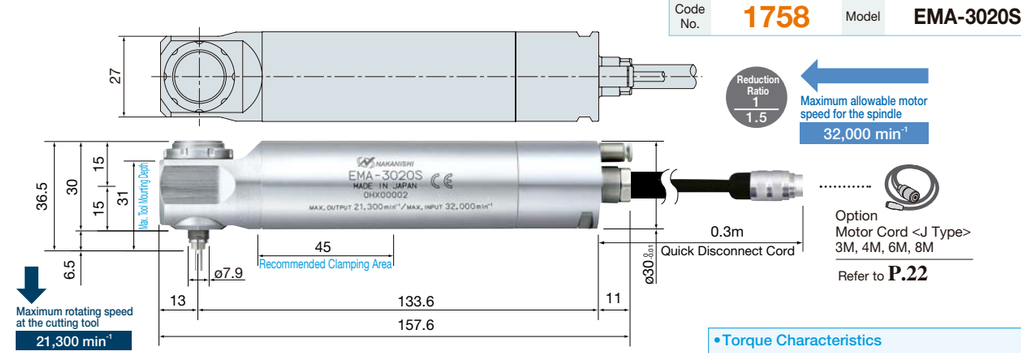
ELECTRIC SYSTEM

90˚Angle Brushless Motor Spindle

EMA-3020S

O.D.	Max. Rotating Speed at The Cutting Tool	Reduction Ratio	Max. Allowable Motor Speed for The Spindle	Spindle Runout	Max. Power	Weight
ø30mm	21,300min⁻¹	1 / 1.5	32,000min⁻¹ (Allowable Rotating Speed)	Within 3 μm	280W	605g

Code No. 1758 Model EMA-3020S



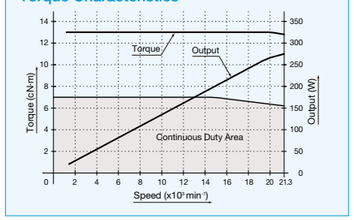
< Standard Equipment · Accessories >

• Collet Chuck ø3.0mm (CHSS-3.0) • Spanner (7 x 5.1), (8 x 6.1) : 1pc. each

< Optional >

Collet Chuck (CHSS Group)	: ø1.0~ø3.0mm See Page 34 for details
Motor Cord	: Length 3m (1778), 4m (1768), 6m (1767), 8m (1766)

•Torque Characteristics



✻Please mention "Code Number" upon your order.

▼ BRUSHLESS MOTOR & SPINDLE (Separate Type)

Straight Spindle

COOLANT

Outside Diameter ø30mm

Max. 60,000min-1

Max. Power 350W

Spindle Runout : Within 1 µm

Motor Cord <S Type> <A Type>
EMCD-3000-4M
OPTION → Refer to P.21
✻Cord length 6M, 8M is available.

Brushless Motor EM-3060 → Refer to P.21

E3000 Control Unit
OPTION → Refer to P.5

Straight Spindle NR-3060S

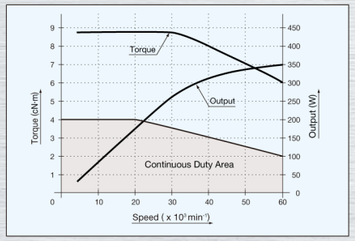
Collet Chuck : Max. ø6.0mm

Collet Chuck
CHK-3.0
OPTION → Refer to P.34

✻Other collet sizes are available.

✻Do not exceed the allowable motor speed for the spindle.

● Torque Characteristics of EM-3060

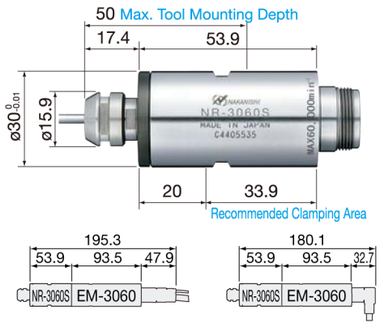


ELECTRIC SYSTEM

Spindle
< Ceramic Bearings >

NR-3060S

O.D.	Allowable Motor Speed	Spindle Runout	Collet Chuck	Weight
ø30mm	60,000min-1 (Motor Speed)	Within 1 µm	ø0.5~ø6.0mm (CHK Group)	270g



Code No. 1583 Model NR-3060S

< Standard Equipment · Accessories >

- Collet Chuck ø3.0mm (CHK-3.0) • Chuck Nut (K-265)
- Spanner (12 x 14) : 2pcs., (22 x 27) : 1pc.

< Optional >

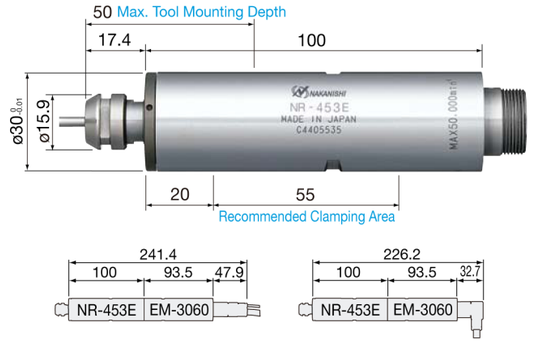
Collet Chuck (CHK Group)	: ø0.5~ø6.0mm See Page 34 for details
Metal Saw Axis (KCH-03)	: For ø6.0 (I.D.) x within ø30mm (O.D.)
Grindstone Axis (AGM-03)	: For grinding wheel with I.D. of ø5.0mm
Grindstone Flange (EGF-19)	: ø19.05 (I.D.) x ø40 (O.D.) x 7 (W) mm

ELECTRIC SYSTEM

Spindle
< Ceramic Bearings >

NR-453E

O.D.	Allowable Motor Speed	Spindle Runout	Collet Chuck	Weight
ø30mm	50,000min-1 (Motor Speed)	Within 1 µm	ø0.5~ø6.0mm (CHK Group)	440g



Code No. 1566 Model NR-453E

< Standard Equipment · Accessories >

- Collet Chuck ø3.0mm (CHK-3.0) • Chuck Nut (K-265)
- Spanner (12 x 14) : 2pcs., (22 x 27) : 1pc.

< Optional >

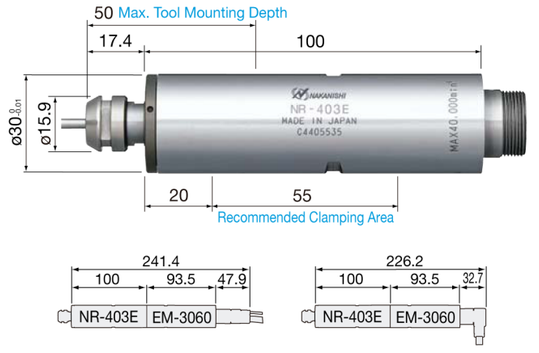
Collet Chuck (CHK Group)	: ø0.5~ø6.0mm See Page 34 for details
Metal Saw Axis (KCH-03)	: For ø6.0 (I.D.) x within ø30mm (O.D.)
Grindstone Axis (AGM-03)	: For grinding wheel with I.D. of ø5.0mm
Grindstone Flange (EGF-19)	: ø19.05 (I.D.) x ø40 (O.D.) x 7 (W) mm

ELECTRIC SYSTEM

Spindle

NR-403E

O.D.	Allowable Motor Speed	Spindle Runout	Collet Chuck	Weight
ø30mm	40,000min-1 (Motor Speed)	Within 1 µm	ø0.5~ø6.0mm (CHK Group)	440g



Code No. 1565 Model NR-403E

< Standard Equipment · Accessories >

- Collet Chuck ø3.0mm (CHK-3.0) • Chuck Nut (K-265)
- Spanner (12 x 14) : 2pcs., (22 x 27) : 1pc.

< Optional >

Collet Chuck (CHK Group)	: ø0.5~ø6.0mm See Page 34 for details
Metal Saw Axis (KCH-03)	: For ø6.0 (I.D.) x within ø30mm (O.D.)
Grindstone Axis (AGM-03)	: For grinding wheel with I.D. of ø5.0mm
Grindstone Flange (EGF-19)	: ø19.05 (I.D.) x ø40 (O.D.) x 7 (W) mm

✻Please mention "Code Number" upon your order.

▼ BRUSHLESS MOTOR & SPINDLE (Separate Type)

Angle Spindle

COOLANT

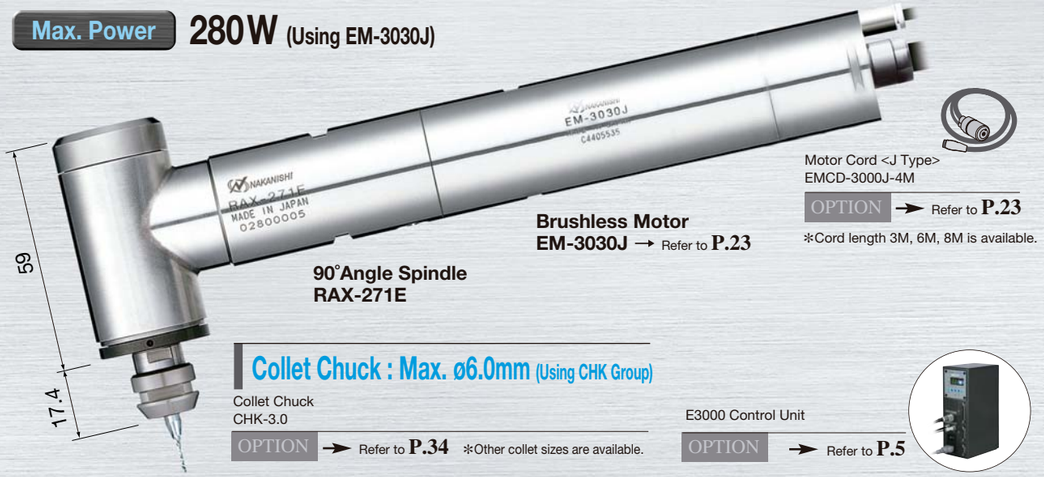
Outside Diameter ø30mm

Max. 20,000min^{-1}

Max. Power 280W (Using EM-3030J)

Angle Spindle Select Sheet

Model	RAX-271E	RAX-71E	RAS-151E	RA-151E	RA-271E
Max. Rotating Speed at The Cutting Tool	20,000min^{-1}	5,000min^{-1}	7,490min^{-1}	7,490min^{-1}	13,330min^{-1}
Using Tools	ø0.5~ø6.0mm			ø0.8~ø3.0mm	



90°Angle Spindle
RAX-271E

Brushless Motor
EM-3030J → Refer to P.23

Motor Cord <J Type>
EMCD-3000J-4M
OPTION → Refer to P.23
✻Cord length 3M, 6M, 8M is available.

Collet Chuck : Max. ø6.0mm (Using CHK Group)

Collet Chuck
CHK-3.0
OPTION → Refer to P.34 ✻Other collet sizes are available.

E3000 Control Unit
OPTION → Refer to P.5

✻Do not exceed the allowable motor speed for the spindle.
✻Set the allowable motor speed for the spindle by the Parameter Setting with the E3000 Control Unit .

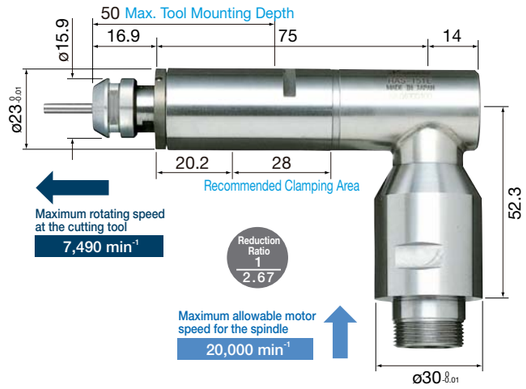
When using an angle type spindle or a speed reducer, do not exceed " the maximum motor speed " or " the maximum rotating speed at the reducer " for the spindle and the reducer.

ELECTRIC SYSTEM

90°Angle Spindle

RAS-151E

O.D.	Max. Rotating Speed at The Cutting Tool	Reduction Ratio	Max. Allowable Motor Speed for The Spindle	Collet Chuck	Spindle Runout	Weight
ø30mm	7,490min^{-1}	1/2.67	20,000min^{-1} (Allowable Rotating Speed)	ø0.5~ø6.0mm (CHK Group)	Within 2µm	325g



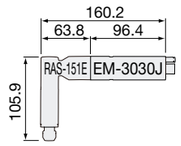
Code No. 1559 Model RAS-151E

< Standard Equipment · Accessories >

- Collet Chuck ø3.0mm (CHK-3.0)
- Chuck Nut (K-265) • Spanner (12 x 14) : 2pcs., (22 x 27) : 1pc.

< Optional >

Collet Chuck (CHK Group)	: ø0.5~ø6.0mm See Page 34 for details
Metal Saw Axis (KCH-03)	: For ø6.0 (I.D.) x within ø30mm (O.D.)
Grindstone Axis (AGM-03)	: For grinding wheel with I.D. of ø5.0mm

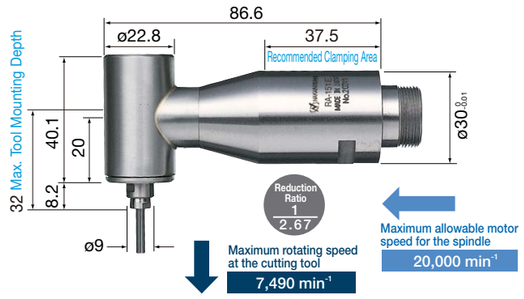


ELECTRIC SYSTEM

90°Angle Spindle

RA-151E

O.D.	Max. Rotating Speed at The Cutting Tool	Reduction Ratio	Max. Allowable Motor Speed for The Spindle	Collet Chuck	Weight
ø30mm	7,490min^{-1}	1/2.67	20,000min^{-1} (Allowable Rotating Speed)	ø0.8~ø3.0mm (CH8 Group)	385g



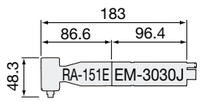
Code No. 1505 Model RA-151E

< Standard Equipment · Accessories >

- Collet Chuck ø3.0mm (CH8-3.0) • Spanner (7 x 5.5), (8 x 5), (22 x 27) : 1pc. each

< Optional >

Collet Chuck (CH8 Group)	: ø0.8~ø3.0mm See Page 34 for details
Metal Saw Axis (KCH-02)	: For ø6.0 (I.D.) x within ø30mm (O.D.)



ELECTRIC SYSTEM

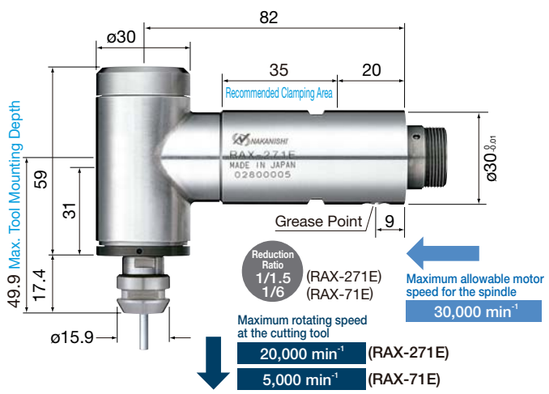
90°Angle Spindle

RAX-271E

O.D.	Max. Rotating Speed at The Cutting Tool	Reduction Ratio	Max. Allowable Motor Speed for The Spindle	Collet Chuck	Spindle Runout	Weight
ø30mm	20,000min^{-1}	1/1.5	30,000min^{-1} (Allowable Rotating Speed)	ø0.5~ø6.0mm (CHK Group)	Within 2µm	580g

RAX-71E

O.D.	Max. Rotating Speed at The Cutting Tool	Reduction Ratio	Max. Allowable Motor Speed for The Spindle	Collet Chuck	Spindle Runout	Weight
ø30mm	5,000min^{-1}	1/6	30,000min^{-1} (Allowable Rotating Speed)	ø0.5~ø6.0mm (CHK Group)	Within 2µm	580g



Code No. 1578 Model RAX-271E

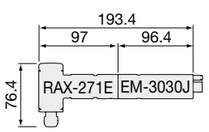
Code No. 1579 Model RAX-71E

< Standard Equipment · Accessories >

- Collet Chuck ø3.0mm (CHK-3.0) • Chuck Nut (K-265)
- Spanner (12 x 14) : 2pcs., (22 x 27) : 1pc. • Grease for Reducer (10mL)

< Optional >

Collet Chuck (CHK Group)	: ø0.5~ø6.0mm See Page 34 for details
Metal Saw Axis (KCH-03)	: For ø6.0 (I.D.) x within ø30mm (O.D.)
Grindstone Axis (AGM-03)	: For grinding wheel with I.D. of ø5.0mm



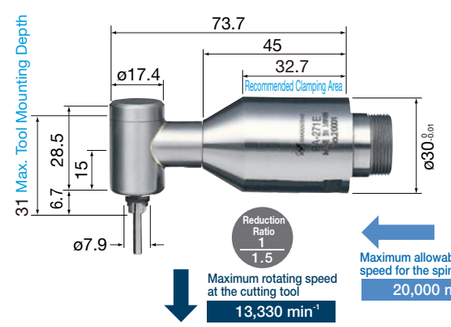
To extend the life expectancy of the Speed Reducer, inject grease every 70 to 100 hours. Grease injection prevents friction of the internal gears as well as heat generation. Adding grease also prevents the degradation of the existing grease in the reducer. Please maintain a reducer grease maintenance program.

ELECTRIC SYSTEM

90°Angle Spindle

RA-271E

O.D.	Max. Rotating Speed at The Cutting Tool	Reduction Ratio	Max. Allowable Motor Speed for The Spindle	Collet Chuck	Weight
ø30mm	13,330min^{-1}	1/1.5	20,000min^{-1} (Allowable Rotating Speed)	ø0.8~ø3.0mm (CHS Group)	240g



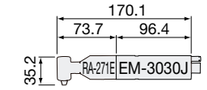
Code No. 1506 Model RA-271E

< Standard Equipment · Accessories >

- Collet Chuck ø3.0mm (CHS-3.0) • Spanner (7 x 5.1), (8 x 5), (22 x 27) : 1pc. each

< Optional >

Collet Chuck (CHS Group)	: ø0.8~ø3.0mm See Page 34 for details



✻Please mention "Code Number" upon your order.

▼ BRUSHLESS MOTOR & SPINDLE (Separate Type)

Automatic Tool Replacement Spindle

COOLANT

Outside Diameter ø50, ø40mm

Max. 50,000min^{-1}

Max. Power 350W

Automatic Tool Replacement with Air ON/OFF

Spindle Runout : Within 1 μm
(NR50-5100 ATC)

Motor Cord <J Type>
EMCD-3000J-4M
OPTION → Refer to P.22
✻Cord length 3M, 6M, 8M is available.

Brushless Motor
EM-3060J → Refer to P.22

Automatic Tool Replacement Spindle
NR50-5100 ATC

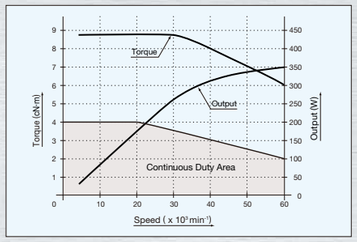
E3000 Control Unit
OPTION → Refer to P.5

New dust protection mechanism design exhausts air sideways. Side exhaust discharge keeps chips from being disbursed away from the machining area
(NR50-5100 ATC)

Collet Chuck : ø3.175mm

Collet Chuck
CHR-3.175
OPTION → Refer to P.34
✻Other collet sizes are available.

● Torque Characteristics of EM-3060J



✻Do not exceed the allowable motor speed for the spindle.

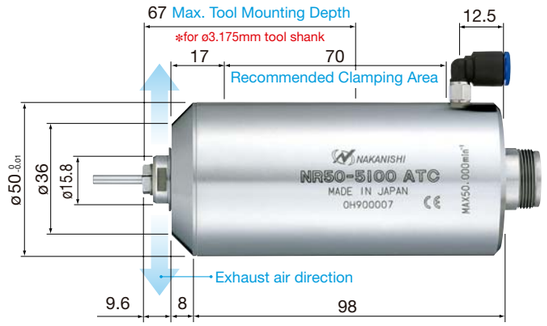
ELECTRIC SYSTEM

Automatic Tool Replacement Spindle

NR50-5100 ATC

O.D.	Allowable Motor Speed	Air for Collet Opening	Spindle Runout	Collet Chuck	Weight
ø50mm	50,000min^{-1} (Motor Speed)	0.55~0.6MPa	Within 1 μm	ø3.175mm (CHR Group)	1,370g

Code No. 1580 Model NR50-5100 ATC



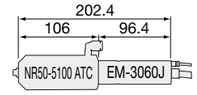
< Standard Equipment · Accessories >

- Collet Chuck ø3.175mm (CHR-3.175)
- Spanner (9 x 11), (12 x 14) : 1pc. each • Bar Wrench (K-236) : 1pc.
- Air Hose with filter (K-251) : ø6mm x 2m

< Optional >

Collet Chuck (CHR Group) : ø2.0, ø3.0, ø3.175, ø4.0, ø6.0, ø6.35mm

See Page 34 for details



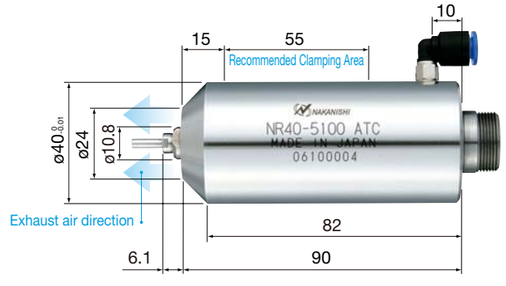
ELECTRIC SYSTEM

Automatic Tool Replacement Spindle

NR40-5100 ATC

O.D.	Allowable Motor Speed	Air for Collet Opening	Spindle Runout	Collet Chuck	Weight
ø40mm	50,000min^{-1} (Motor Speed)	0.55~0.6MPa	Within 2 μm	ø3.175mm (CHB Group)	740g

Code No. 1582 Model NR40-5100 ATC



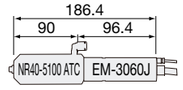
< Standard Equipment · Accessories >

- Collet Chuck ø3.175mm (CHB-3.175)
- Spanner (6.1 x 8), (9 x 11) : 1pc. each • Bar Wrench (K-236) : 1pc.
- Air Hose with filter (K-251) : ø6mm x 2m

< Optional >

Collet Chuck (CHB Group) : ø2.0, ø3.0, ø3.175, ø4.0mm

See Page 34 for details



✻Please mention "Code Number" upon your order.

▼ BRUSHLESS MOTOR & SPINDLE (Separate Type)

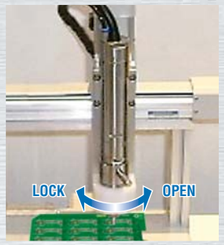
Lever Type Spindle

COOLANT

Outside Diameter ø26.8mm (Recommended Clamping Area)

Max. 60,000min^{-1}

Max. Power 350W



Tool changing with the Lever open & close

Lever Type Spindle
NRR-3060

Brushless Motor
EM-3060J → Refer to P.22

Motor Cord <J Type>
EMCD-3000J-4M
OPTION → Refer to P.22
✻Cord length 3M, 6M, 8M is available.

Spindle Runout : Within 1 µm

New dust protection mechanism design exhausts air sideways. Side exhaust discharge keeps chips from being disbursed away from the machining area. The bottom of the spindle is equipped with an internal thread. This enables tool length pre-setting.

✻Please make the stopper by your own to adjust "Tool Mounting Depth"

Collet Chuck : ø3.175mm

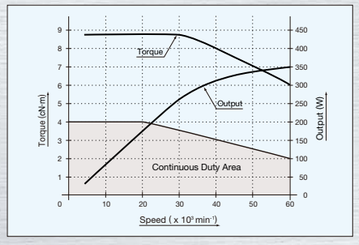
Collet Chuck
CHB-3.175
OPTION → Refer to P.34

✻Other collet sizes are available.

✻Do not exceed the allowable motor speed for the spindle.

E3000 Control Unit
OPTION → Refer to P.5

● Torque Characteristics of EM-3060J

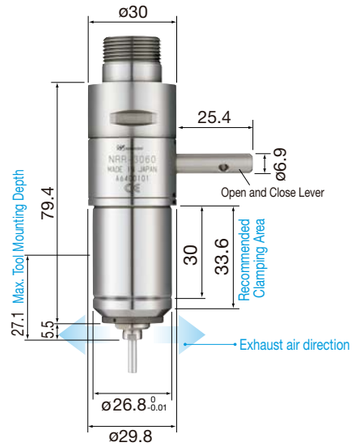


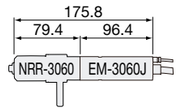
ELECTRIC SYSTEM

Lever Type Spindle

NRR-3060

O.D.	Allowable Motor Speed	Spindle Runout	Collet Chuck	Weight
ø26.8mm Recommended Clamping Area	60,000min^{-1} (Motor Speed)	Within 1 µm	ø3.175mm (CHB Group)	350g





Code No. 1836 Model NRR-3060

< Standard Equipment · Accessories >

- Collet Chuck ø3.175mm (CHB-3.175)
- Spanner (6.1 x 8) : 2 pcs., (22 x 27) : 1pc.

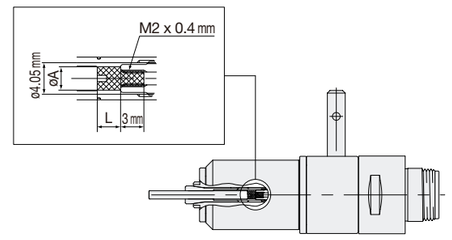
< Optional >

Collet Chuck (CHB Group) : ø2.0, ø3.0, ø3.175, ø4.0mm

See Page 34 for details

Features:

- New dust protection mechanism design exhausts air sideways. Side exhaust discharge keeps chips from being disbursed away from the machining area.
- The bottom of the spindle is equipped with an internal thread (M2 x 0.4mm / 3mm long). This enables tool length pre-setting.



✻Please mention "Code Number" upon your order.

ELECTRIC SYSTEM

Brushless Motor

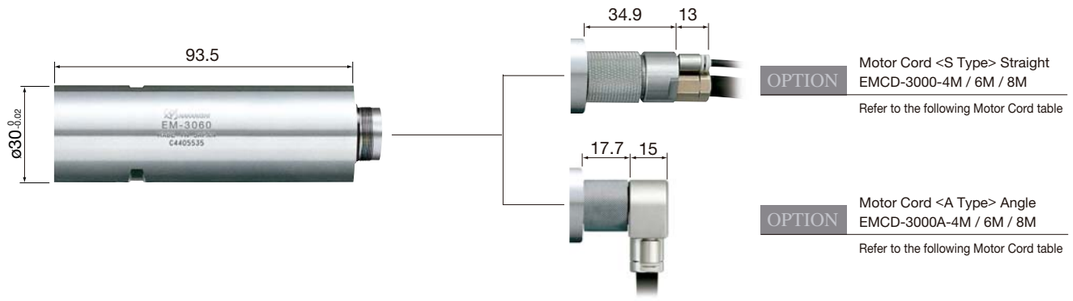
EM-3060

O.D.	Max. Power	Motor Speed	Weight
ø30mm	350W	5,000~60,000min⁻¹	325g

Code No. **1597** Model **EM-3060**

< Standard Equipment · Accessories >

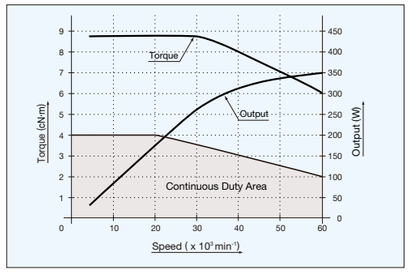
- Spanner (22 x 27) : 1pc.



OPTION Motor Cord <S Type> Straight
EMCD-3000-4M / 6M / 8M
Refer to the following Motor Cord table

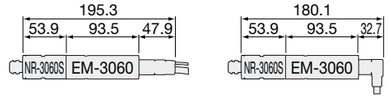
OPTION Motor Cord <A Type> Angle
EMCD-3000A-4M / 6M / 8M
Refer to the following Motor Cord table

Torque Characteristics of EM-3060

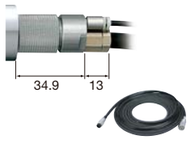


Motor Cord EMCD-3000J-3M / 4M / 6M / 8M on page P.22 can not used for this motor.

**Motor Cord is sold separately.
Please select a cord from the list below.**



Motor Cord <S Type> Straight

Product	Code No.	Model	Length	Std · Accessories	Fit to
Straight Type 	1748	EMCD-3000-4M	4m	• Air Hose • Connector Cap (Provided)	EM-3060 EM30-S6000 EM25-S6000 EM20-S6000
	1749	EMCD-3000-6M	6m		
	1750	EMCD-3000-8M	8m		

Motor Cord <A Type> Angle

Product	Code No.	Model	Length	Std · Accessories	Fit to
90°Angle Type	1744	EMCD-3000A-4M	4m	• Air Hose • Connector Cap (Provided)	EM-3060 EM30-S6000 EM25-S6000 EM20-S6000
	1743	EMCD-3000A-6M	6m		
	1742	EMCD-3000A-8M	8m		

ELECTRIC SYSTEM

Brushless Motor
<Cord with Quick Disconnect>

EM-3060J

O.D.	Max. Power	Motor Speed	Weight
ø30mm	350W	1,000~60,000min⁻¹	0.3m: 360g 2m: 530g

Brushless Motor with 0.3m Cord

Code No. **1765** Model **EM-3060J**

Brushless Motor with 2m Cord

Code No. **1779** Model **EM-3060J-2M**

✻EMCD-3000J-8M (8m long) can not used for this motor.

< Standard Equipment · Accessories >

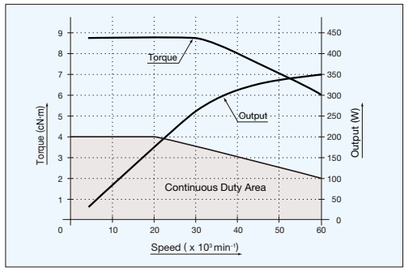
- Spanner (22 x 27) : 1pc.

OPTION Motor Cord <J Type>
EMCD-3000J-3M / 4M / 6M / 8M
Refer to the following Motor Cord table

OPTION Motor Cord <J Type>
EMCD-3000J-3M / 4M / 6M
Refer to the following Motor Cord table

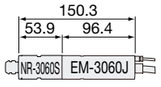
✻EMCD-3000J-8M (8m long) can not used for this motor.

Torque Characteristics of EM-3060J



EMCD-3000-4M / 6M / 8M and **EMCD-3000A-4M / 6M / 8M** on page P.21 can not used for this motor.

**Motor Cord is sold separately.
Please select a cord from the list below.**



Motor Cord <J Type>

Product	Code No.	Model	Length	Std · Accessories	Fit to
	1778	EMCD-3000J-3M	3.0m	• Air Hose • Connector Cap (Provided)	EM-3060J· EM-3030J EMS-3060K· EMS-3060A EMR-3008K· EMA-3020K EMA-3020S
	1768	EMCD-3000J-4M	3.7m		
	1767	EMCD-3000J-6M	5.7m		
	1766	EMCD-3000J-8M	7.7m		

✻Please mention "Code Number" upon your order.

ELECTRIC SYSTEM

Brushless Motor
<Cord with Quick Disconnect>

EM-3030J

O.D.	Max. Power	Motor Speed	Weight
ø30mm	280W	1,000~32,000min^{-1}	0.3m: 360g 2m: 530g

- EM-3030J has a 32,000min^{-1} max. This motors intended design is for use with NAKANISHI angle spindles such as : RAX-271E / 71E, RA-271E, RAS-151E and RA-151E. These spindles have a 20,000-30,000min^{-1} max. input speed.

Brushless Motor with 0.3m Cord

Code No. 1769 Model EM-3030J

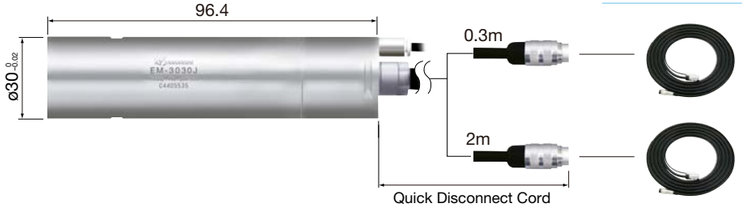
Brushless Motor with 2m Cord

Code No. 1780 Model EM-3030J-2M

✻EMCD-3000J-8M (8m long) can not used for this motor.

< Standard Equipment · Accessories >

- Spanner (22 x 27) : 1pc.

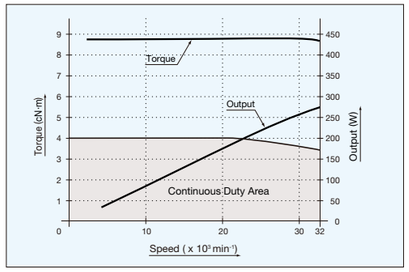


OPTION Motor Cord <J Type>
EMCD-3000J-3M / 4M / 6M / 8M
Refer to the following Motor Cord table

OPTION Motor Cord <J Type>
EMCD-3000J-3M / 4M / 6M
Refer to the following Motor Cord table

✻EMCD-3000J-8M (8m long) can not used for this motor.

- Torque Characteristics of EM-3030J



⚠ **EMCD-3000-4M / 6M / 8M** and **EMCD-3000A-4M / 6M / 8M** on page P.21 can not used for this motor.

Motor Cord is sold separately.
Please select a cord from the list below.

▼ Motor Cord <J Type>

Product	Code No.	Model	Length	Std · Accessories	Fit to
	1778	EMCD-3000J-3M	3.0m	• Air Hose • Connector Cap (Provided)	EM-3060J· EM-3030J EMS-3060K· EMS-3060A EMR-3008K· EMA-3020K EMA-3020S
	1768	EMCD-3000J-4M	3.7m		
	1767	EMCD-3000J-6M	5.7m		
	1766	EMCD-3000J-8M	7.7m		

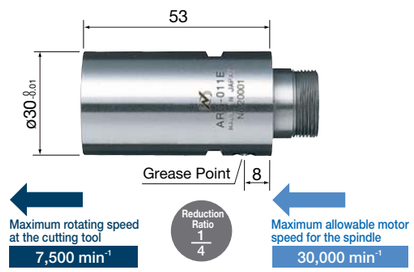
⚠ When using an angle type spindle or a speed reducer, do not exceed **" the maximum motor speed "** or **" the maximum rotating speed at the reducer "** for the spindle and the reducer.

ELECTRIC SYSTEM

Speed Reducer (1/4)

ARG-011E

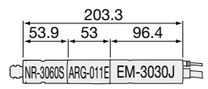
O.D.	Max. Rotating Speed at The Cutting Tool	Reduction Ratio	Max. Allowable Motor Speed for The Spindle	Weight
ø30mm	7,500min^{-1}	1/4	30,000min^{-1} (Motor Speed)	242g



Code No. 1507 Model ARG-011E

< Standard Equipment · Accessories >

- Spanner (22 x 27) : 1pc. • Grease for Reducer (10mL)



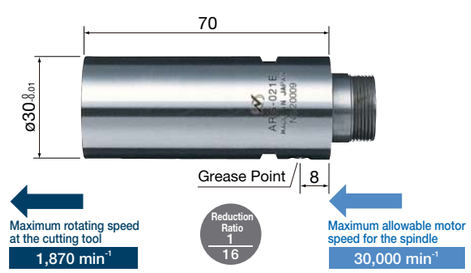
⚠ To extend the life expectancy of the Speed Reducer, inject grease every 70 to 100 hours. Grease injection prevents friction of the internal gears as well as heat generation. Adding grease also prevents the degradation of the existing grease in the reducer.
Please maintain a reducer grease maintenance program.

ELECTRIC SYSTEM

Speed Reducer (1/16)

ARG-021E

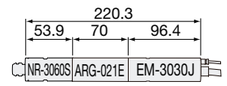
O.D.	Max. Rotating Speed at The Cutting Tool	Reduction Ratio	Max. Allowable Motor Speed for The Spindle	Weight
ø30mm	1,870min^{-1}	1/16	30,000min^{-1} (Motor Speed)	325g



Code No. 1508 Model ARG-021E

< Standard Equipment · Accessories >

- Spanner (22 x 27) : 1pc. • Grease for Reducer (10mL)



⚠ To extend the life expectancy of the Speed Reducer, inject grease every 70 to 100 hours. Grease injection prevents friction of the internal gears as well as heat generation. Adding grease also prevents the degradation of the existing grease in the reducer.
Please maintain a reducer grease maintenance program.

ELECTRIC SYSTEM

E3000 Selector Unit

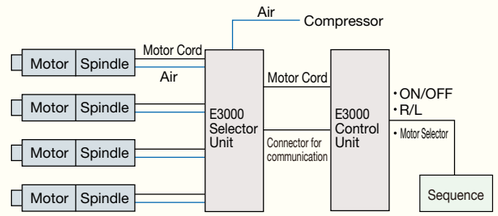
Motor	Power Consumption	Air Flow Volume	Weight
4motors	AC 0.15A	120L / min (0.35MPa / Using max. 4 motor/spindles)	1.9kg

- Using Selector connected to E3000 Control Unit.
- AC100-240V for international operation
- Up to 4 motors can be connected to E3000 providing individual control of each motor.
  (Simultaneous motor operation is not possible)

■Automatic Control System Chart

▌Sequential Operation of up to 4 Motor / Spindles

∗4 motors can not be operated simultaneously.



∗When connecting E3000 Control Unit to E3000 Selector Unit up to 4 motors can be connected to E3000 Selector Unit providing individual control of each motor. (4 motors can not be run simultaneously.)

< Specifications >

Power Source	: AC100-240V
Dimensions	: W88 x D138 x H238㎜

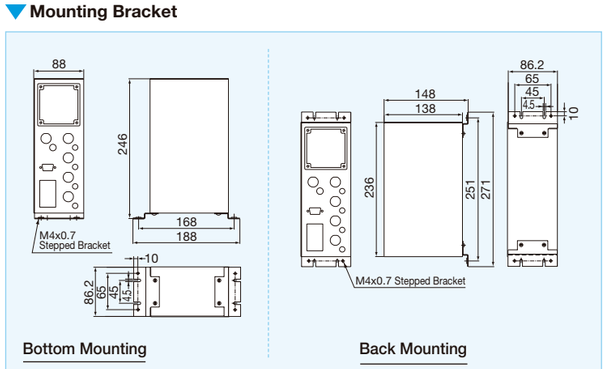
Plug Type	For 100V (A type)	Code No.	8425	Product	E3000 Selector Unit
Plug Type	For 120V (B type)	Code No.	9781		
Plug Type	For 200V (C type)	Code No.	8426		
Plug Type	For 230V (D type)	Code No.	9782		

∗AC100-240V for international operation. Please check the power source plug type and order accordingly.

< Standard Equipment · Accessories >

- Power Cord : 2m • Connect Control Unit to Selector Unit Cable : 60cm
- Communication Cable : 60cm • Connector Cap (Provided)
- Plug to avoid Air Flow • Bracket • Power Cord Grip
- Screw • Rubber Pad • Fuse (T1.6AL) 250V : 2pcs.

▼Mounting Bracket



▼Power Source Plug

Plug Type	Main Usable Area	Product
For 100V (A type)	For Japan	
For 120V (B type)	For U.S.A. and Canada	
For 200V (C type)	Without Plug	
For 230V (D type)	For Europe	

∗Please mention "Code Number" upon your order.

▼ BRUSHLESS MOTOR & SPINDLE (Separate Type)

ø25mm Spindle

COOLANT

Outside Diameter **ø25mm**

Max. **50,000min^{-1}**

Max. Power **250W** (Using E3000 Control Unit)

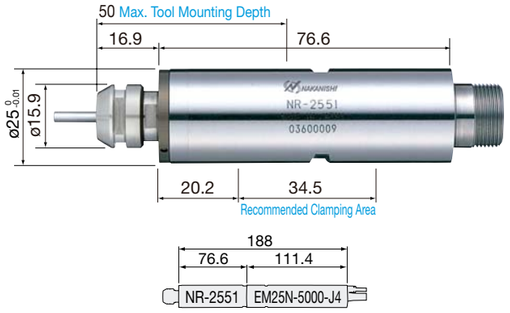
ELECTRIC SYSTEM

Spindle

< Ceramic Bearings >

NR-2551

O.D.	Allowable Motor Speed	Spindle Runout	Collet Chuck	Weight
ø25mm	50,000min^{-1} (Motor Speed)	Within 1 µm	ø0.5~ø6.0mm (CHK Group)	253g



Code No. **1819** Model **NR-2551**

< Standard Equipment · Accessories >

- Collet Chuck ø3.0mm (CHK-3.0) • Chuck Nut (K-265)
- Spanner (12 x 14) : 2pcs., (22 x 27) : 1pc.

< Optional >

Collet Chuck (CHK Group)	: ø0.5~ø6.0mm See Page 34 for details
Metal Saw Axis (KCH-03)	: For ø6.0 (I.D.) x within ø30mm (O.D.)
Grindstone Axis (AGM-03)	: For grinding wheel with I.D. of ø5.0mm

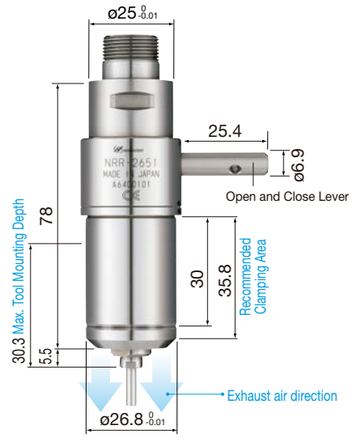
✻Outside diameter ø25.4mm type is also available.

ELECTRIC SYSTEM

Lever Type Spindle

NRR-2651

O.D.	Allowable Motor Speed	Spindle Runout	Collet Chuck	Weight
ø26.8mm Recommended Clamping Area	50,000min^{-1} (Motor Speed)	Within 1 µm	ø3.175mm (CHB Group)	330g



Code No. **1835** Model **NRR-2651**

< Standard Equipment · Accessories >

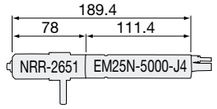
- Collet Chuck ø3.175mm (CHB-3.175)
- Spanner (6.1 x 8), (10 x 10), (22 x 27) : 1pc. each

< Optional >

Collet Chuck (CHB Group)	: ø2.0, ø3.0, ø3.175, ø4.0mm

See Page 34 for details

✻There is not an outside diameter ø25.4mm dimension.



When using an angle type spindle or a speed reducer, do not exceed " the maximum motor speed " or " the maximum rotating speed at the reducer " for the spindle and the reducer.

ELECTRIC SYSTEM

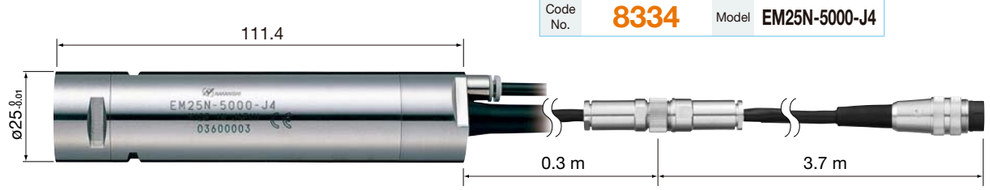
Brushless Motor

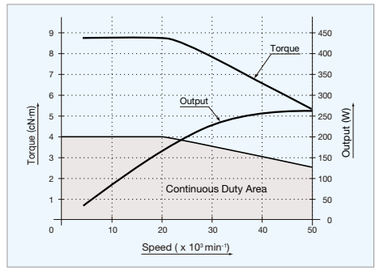
(Cord with Quick Disconnect)

EM25N-5000-J4

O.D.	Max. Power	Motor Speed	Weight
ø25mm	250W (E3000 Control Unit)	5,000~50,000min^{-1}	250g (w/o Cord)

Code No. **8334** Model **EM25N-5000-J4**





< Standard Equipment · Accessories >

- Cord with Quick Disconnect • Air Coolant Hose • Reducer
- Spanner (22 x 27) : 1pc.

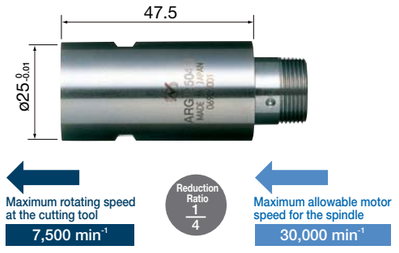
✻There is not an outside diameter ø25.4mm dimension.

ELECTRIC SYSTEM

Speed Reducer (1/4)

ARG-2504N

O.D.	Max. Rotating Speed at The Cutting Tool	Reduction Ratio	Max. Allowable Motor Speed for The Spindle	Weight
ø25mm	7,500min^{-1}	1/4	30,000min^{-1} (Motor Speed)	150g

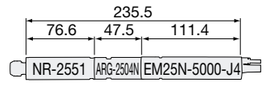


Code No. **1822** Model **ARG-2504N**

< Standard Equipment · Accessories >

- Spanner (22 x 27) : 1pc.

✻Outside diameter ø25.4mm type is also available.

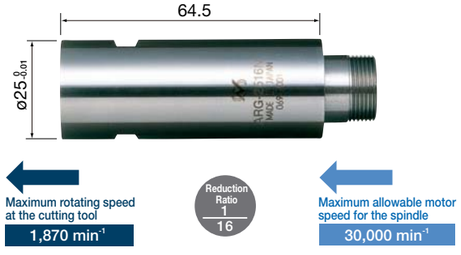


ELECTRIC SYSTEM

Speed Reducer (1/16)

ARG-2516N

O.D.	Max. Rotating Speed at The Cutting Tool	Reduction Ratio	Max. Allowable Motor Speed for The Spindle	Weight
ø25mm	1,870min^{-1}	1/16	30,000min^{-1} (Motor Speed)	205g

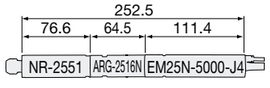


Code No. **1824** Model **ARG-2516N**

< Standard Equipment · Accessories >

- Spanner (22 x 27) : 1pc.

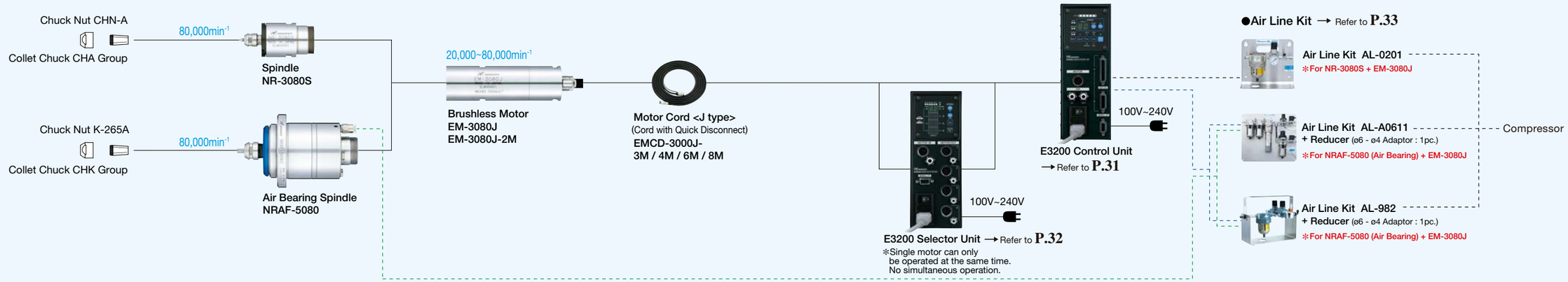
✻Outside diameter ø25.4mm type is also available.



✻Please mention "Code Number" upon your order.

ELECTRIC SYSTEM

Separate Type ø50, ø30mm



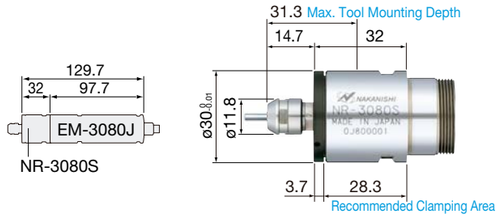
※Please refer to the concerned product introduction page about the details.

ELECTRIC SYSTEM

Spindle
< Ceramic Bearings >

NR-3080S

O.D.	Allowable Motor Speed	Spindle Runout	Collet Chuck	Weight
ø30mm	80,000min-1 (Motor Speed)	Within 1 µm	ø0.5~ø4.0mm (CHA Group)	170g



Code No. 1783 Model NR-3080S

< Standard Equipment · Accessories >

- Collet Chuck ø3.0mm (CHA-3.0) • Chuck Nut (CHN-A)
- Spanner (12 x 14) : 2pcs., (22 x 27) : 1pc.

< Optional >

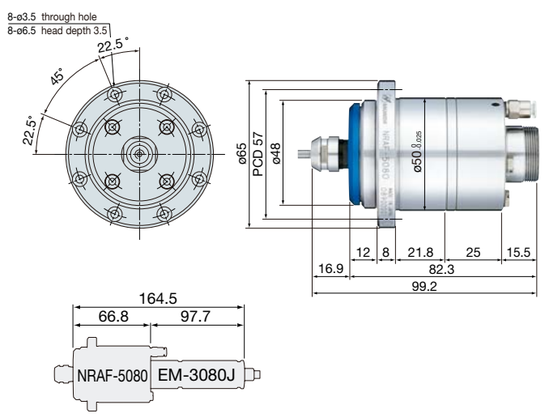
Collet Chuck (CHA Group) : ø0.5~ø4.0mm See Page 34 for details

ELECTRIC SYSTEM

Air Bearing Spindle

NRAF-5080

Housing Diameter	Allowable Motor Speed	Air Bearing Consumption	Spindle Runout	Collet Chuck	Weight
ø50mm	80,000min-1 (Motor Speed)	35NL/min (0.5MPa)	Within 1 µm	ø0.5~ø6.0mm (CHK Group)	810g



Code No. 1782 Model NRAF-5080

< Specifications >

Main body mount method	: Flange mounting method, M3 bolt (8 locations, 45° Angle, PDC57)
Bearing Type	: Air static bearing
Bearing Load Capacity	: Radial : 20N, Thrust : 40N
Useable Max. Diameter of Grindstone	: Less than ø8mm (For ø6.0mm shank)
Hose Diameter	Air Inlet · Bearing : ø4.0mm

< Standard Equipment · Accessories >

- Collet Chuck ø3.0mm (CHK-3.0) • Chuck Nut (K-265A)
- Spanner (12 x 14) : 2pcs., (22 x 27) : 1pc.
- Fitting for piping (KQ2H04-M5-X2) : 1pc. • Plug (KQ2P-04) : 1pc.
- Inlet Air Hose : ø4mm x 4m, 1pc. • Bar Wrench (K-236) : 1pc.

< Optional >

Collet Chuck (CHK Group) : ø0.5~ø6.0mm See Page 34 for details

ELECTRIC SYSTEM

Brushless Motor
<Cord with Quick Disconnect>

EM-3080J

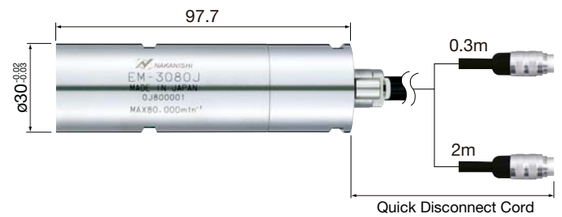
O.D.	Max. Power	Motor Speed	Weight
ø30mm	350W	20,000~80,000min-1	0.3m: 360g 2m: 530g

Brushless Motor with 0.3m Cord

Code No. 1781 Model EM-3080J

Brushless Motor with 2m Cord

Code No. 1788 Model EM-3080J-2M

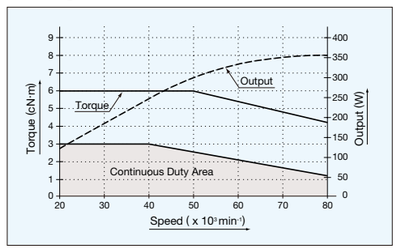


OPTION Motor Cord <J Type> EMCD-3000J-3M / 4M / 6M / 8M
Refer to the following Motor Cord table

OPTION Motor Cord <J Type> EMCD-3000J-3M / 4M / 6M
Refer to the following Motor Cord table

※EMCD-3000J-8M (8m long) can not used for this motor.

● Torque Characteristics of EM-3080J



< Standard Equipment · Accessories >

- Spanner (22 x 27) : 1pc.

EMCD-3000-4M / 6M / 8M and **EMCD-3000A-4M / 6M / 8M** on page P.21 can not used for this motor.

Motor Cord is sold separately. Please select a cord from the list below.

▼ Motor Cord <J Type>

Product	Code No.	Model	Length	Std · Accessories	Fit to
	1778	EMCD-3000J-3M	3.0m	• Air Hose • Connector Cap (Provided)	EM-3080J
	1768	EMCD-3000J-4M	3.7m		
	1767	EMCD-3000J-6M	5.7m		
	1766	EMCD-3000J-8M	7.7m		

※Please mention "Code Number" upon your order.

ELECTRIC SYSTEM

E3200 Control Unit

Motor Speed	Power Source	Max. Power	Power Consumption	Weight
1,000~80,000min-1	AC100~240V	350W	AC 1.8A	2.8kg

● Load Meter

● : Continuous load area
● : Intermittent load area
● : Overload

External Input / Output Control Signal Operation

●External Input
Motor Rotating / Stopped
Error Released
Rotating Direction
Motor Speed Setting and etc.

●External Monitor
Motor Current
Error
Warning
Rotating pulse and etc.

●Parameter Setting
Maximum motor speed setting,
Fix the motor speed

AC100-240V for international operation

< Specifications >

Power Source	: AC100-240V
Motor Speed	: 1,000-80,000min-1
Max. Output Power	: 350W
Power Consumption	: AC 1.8A
Air Flow Volume	: 30L/min (0.25-0.3MPa)
Weight	: 2.8kg
Dimensions	: W88 x D138 x H238mm

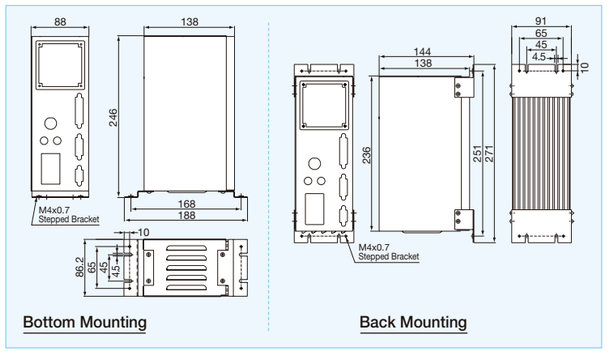
Plug Type	For 100V (A type)	Code No.	8442	Product	E3200 Control Unit
Plug Type	For 120V (B type)	Code No.	8443		
Plug Type	For 200V (C type)	Code No.	8444		
Plug Type	For 230V (D type)	Code No.	8445		

< Standard Equipment · Accessories >

- Power Cord : 2m • Air Hose with filter • Reducer
- Air Plug (Provided) • Connector Cap (Provided)
- Bracket • Power Cord Grip • Screw • Rubber Pad
- Fuse (T6.3AL) 250V : 2pcs.

※AC100-240V for international operation. Please check the power source plug type and order accordingly.

Mounting Bracket



Power Source Plug

Plug Type	Main Usable Area	Product
For 100V (A type)	For Japan	
For 120V (B type)	For U.S.A. and Canada	
For 200V (C type)	Without Plug	
For 230V (D type)	For Europe	

ELECTRIC SYSTEM

E3200 Selector Unit

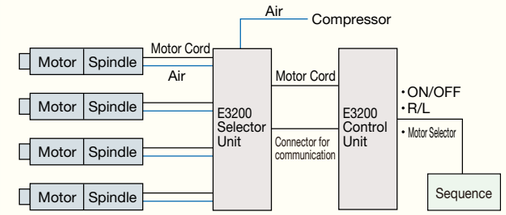
Motor	Power Consumption	Air Flow Volume	Weight
4motors	AC 0.15A	120L / min (0.35MPa / Using max. 4 motor/spindles)	1.9kg

- Using Selector connected to E3200 Control Unit.
- AC100-240V for international operation
- Up to 4 motors can be connected to E3200 providing individual control of each motor. (Simultaneous motor operation is not possible)

■Automatic Control System Chart

Sequential Operation of up to 4 Motor / Spindles

※4 motors can not be operated simultaneously.



※When connecting E3200 Control Unit to E3200 Selector Unit up to 4 motors can be connected to E3200 Selector Unit providing individual control of each motor. (4 motors can not be run simultaneously.)

< Specifications >

Power Source	: AC100-240V
Dimensions	: W88 x D138 x H238mm

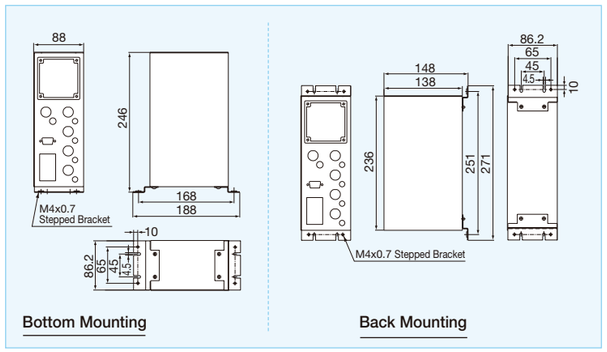
Plug Type	For 100V (A type)	Code No.	8466	Product	E3200 Selector Unit
Plug Type	For 120V (B type)	Code No.	8467		
Plug Type	For 200V (C type)	Code No.	8468		
Plug Type	For 230V (D type)	Code No.	8469		

< Standard Equipment · Accessories >

- Power Cord : 2m • Connect Control Unit to Selector Unit Cable : 60cm
- Communication Cable : 60cm • Connector Cap (Provided)
- Plug to avoid Air Flow • Bracket • Power Cord Grip
- Screw • Rubber Pad • Fuse (T1.6AL) 250V : 2pcs.

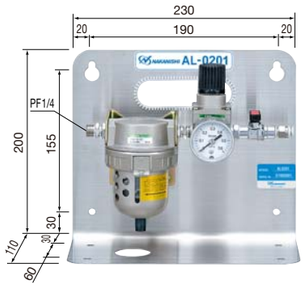
※AC100-240V for international operation. Please check the power source plug type (P.31) and order accordingly.

Mounting Bracket



Air Line Kit

AL-0201 (For ø6mm Hose)



■The AL-0201 is a **Clean air** supply unit. Dust and moisture in the compressed air are eliminated by the filter in the first stage and regulator provides accurate and stable air to the control unit.

Filter Mesh 0.3 µm

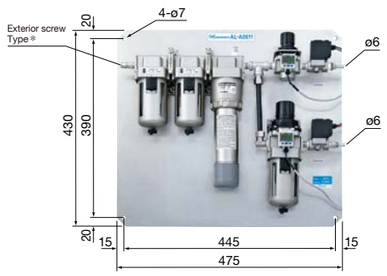
Code No.	1541	Model	AL-0201

< Standard Equipment · Accessories >

• Air Filter • Air Regulator • Air Pressure Gauge
• Air ON-OFF Valve • Hose for Piping (K-275) : 2m

Air Line Kit

AL-A0611 (For ø6mm Hose) Use AL-A0611 for NRAF-5080 with a high grade air supply



[Solenoid Operated Air Valve]

■The AL-A0611 is a high grade air supply unit for the Air Bearing Spindle. Filter Mesh 0.01µm is realized with micro mist filter.

Filter Mesh 0.01 µm

Code No.	1548	Model	AL-A0611

< Standard Equipment · Accessories >

• Mist Separator • Micro Mist Separator • Membrane Air Dryer
• Regulator • Solenoid Valve

✻ Exterior screw Type (Model KK13P-02M made by SMC Corporation)

Air Line Kit

AL-982 (For ø6mm Hose) Use AL-982 for NRAF-5080

[Simple Handling Valve Control]

■The AL-982 is a simple air supply unit. This unit supplies air to the air bearing and air turbine chambers individually.

Filter Mesh 0.3 µm

Code No.	1227	Model	AL-982

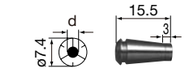
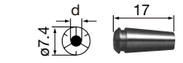
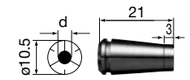
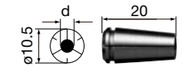
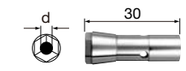
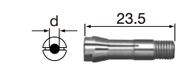
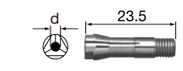
< Standard Equipment · Accessories >

• Air Filter • Air Regulator • Air Pressure Gauge • Air ON-OFF Valve
• Hose for Piping (K-275) : 2m

Operation Panel Extension Cord

Product	Description / Specifications	Fit to	Code No.
	Operation Panel Extension Cord (4m)	E3000 Control Unit E3200 Control Unit	8407

Collet Chuck

Product	Inside Diameter : ød	Fit to	Model	Code No.
 Model : CHA-1.0, CHA-3.0, CHA-3.0AA, CHA-3.175, CHA-3.175AA, CHA-4.0, CHA-4.0AA  Model : Besides the above Collet Chuck CHA Group	ø2.35	EM20-S6000, EM25-S6000 EMS-3060A, NR-3080S NRAF-5080 ✻High precision type	CHA-2.35	91492
	ø3.0		CHA-3.0	91430
	ø3.175		CHA-3.175	91493
	ø4.0		CHA-4.0	91440
	ø0.5, ø0.6, ø0.7, ø0.8, ø0.9		CHA-[][]	—
	ø1.1, ø1.2, ø1.3, ø1.4, ø1.7, ø1.8, ø1.9 ø2.1, ø2.2, ø2.3, ø2.4, ø2.6, ø2.7, ø2.8, ø2.9 ø3.1, ø3.2, ø3.3, ø3.4, ø3.6, ø3.7, ø3.8, ø3.9			
	ø1.0, ø1.5, ø2.0, ø2.5, ø3.5			
	ø1.6			
	ø3.0AA✻		CHA-3.0AA	91494
	ø3.175AA✻		CHA-3.175AA	91496
	ø4.0AA✻		CHA-4.0AA	91495
 Collet Chuck CHB Group	ø2.0	NR40-5100ATC NRR-3060, NRR-2651	CHB-2.0	92820
	ø3.0		CHB-3.0	92830
	ø3.175		CHB-3.175	92893
	ø4.0		CHB-4.0	92840
 Model : CHK-1.0, CHK-3.0, CHK-3.0AA, CHK-3.175, CHK-3.175AA, CHK-4.0, CHK-4.0AA, CHK-6.0, CHK-6.0AA, CHK-6.35, CHK-6.35AA  Model : Besides the above Collet Chuck CHK Group	ø2.35	EM30-S6000, EMA-3020K EMS-3060K, EMR-3008K NR-151E, NR-2551 NR-3060S, NR-403E NR-453E, RAS-151E RAX-271E, RAX-71E ✻High precision type	CHK-2.35	91592
	ø3.0		CHK-3.0	91530
	ø3.175		CHK-3.175	91593
	ø4.0		CHK-4.0	91540
	ø6.0		CHK-6.0	91560
	ø6.35		CHK-6.35	91596
	ø0.5, ø0.6, ø0.7, ø0.8, ø0.9		CHK-[][]	—
	ø1.0, ø1.5, ø2.0, ø2.5, ø3.5, ø4.5, ø4.76, ø5.5			
	ø1.1, ø1.2, ø1.3, ø1.4, ø1.7, ø1.8, ø1.9 ø2.1, ø2.2, ø2.3, ø2.4, ø2.6, ø2.7, ø2.8, ø2.9 ø3.1, ø3.2, ø3.3, ø3.4, ø3.6, ø3.7, ø3.8, ø3.9 ø4.1, ø4.2, ø4.3, ø4.4, ø4.6, ø4.7, ø4.8, ø4.9 ø5.1, ø5.2, ø5.3, ø5.4, ø5.6, ø5.7, ø5.8, ø5.9			
	ø1.6, ø5.0			
	ø3.0AA✻		CHK-3.0AA	91597
	ø3.175AA✻		CHK-3.175AA	91598
	ø4.0AA✻		CHK-4.0AA	91599
	ø6.0AA✻		CHK-6.0AA	91600
	ø6.35AA✻		CHK-6.35AA	91601
 Collet Chuck CHR Group	ø3.0	NR50-5100 ATC	CHR-3.0	91930
	ø3.175		CHR-3.175	91993
	ø6.35		CHR-6.35	91996
	ø2.0		CHR-2.0	91920
	ø4.0		CHR-4.0	91940
	ø6.0		CHR-6.0	91960
 Collet Chuck CHS Group	ø2.35	RA-271E	CHS-2.35	90592
	ø3.0		CHS-3.0	90530
	ø3.175		CHS-3.175	90593
	ø1.6		CHS-1.6	90516
	ø0.8, ø0.9		CHS-[][]	—
	ø1.0, ø2.0, ø2.5			
	ø1.1, ø1.2, ø1.3, ø1.4, ø1.5, ø1.7, ø1.8, ø1.9 ø2.1, ø2.2, ø2.3, ø2.4, ø2.6, ø2.7, ø2.8, ø2.9			
 Collet Chuck CHSS Group	ø2.35	EMA-3020S	CHSS-2.35	93092
	ø3.0		CHSS-3.0	93030
	ø3.175		CHSS-3.175	93093
	ø1.0, ø1.5, ø2.0, ø2.5		CHSS-[][]	—
 Collet Chuck CH8 Group	ø2.35	RA-151E	CH8-2.35	91092
	ø3.0		CH8-3.0	91030
	ø3.175		CH8-3.175	91093
	ø0.8, ø0.9		CH8-[][]	—
	ø1.0, ø1.5, ø2.0, ø2.5			
	ø1.1, ø1.2, ø1.3, ø1.4, ø1.6, ø1.7, ø1.8, ø1.9 ø2.1, ø2.2, ø2.3, ø2.4, ø2.6, ø2.7, ø2.8, ø2.9			

✻Please mention "Code Number" upon your order.